

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

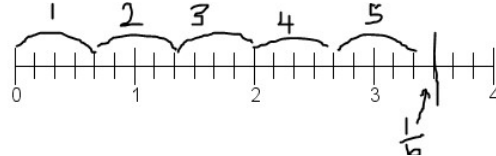
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

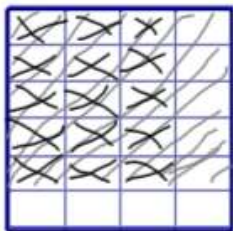
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



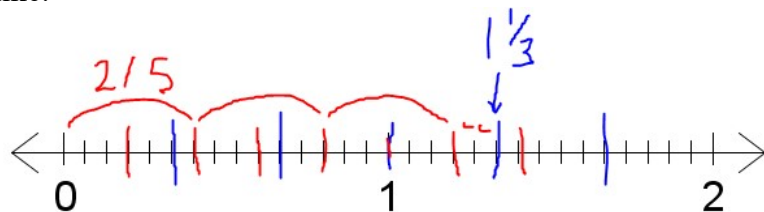
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

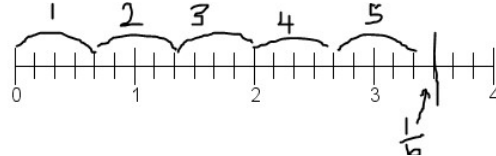
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

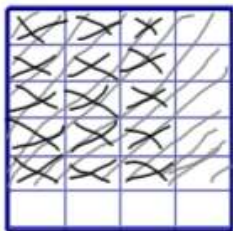
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



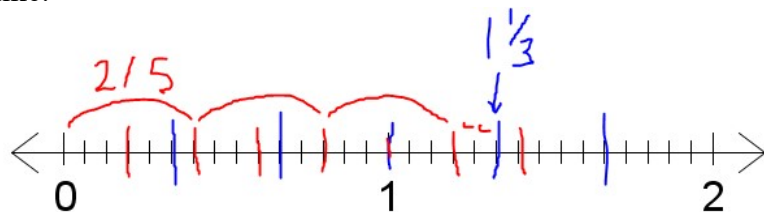
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

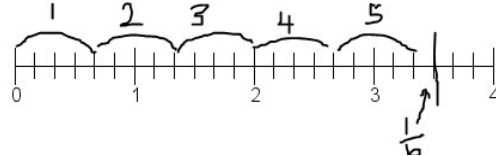
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

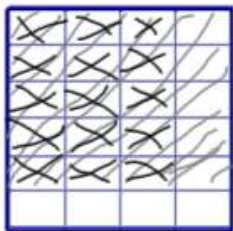
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



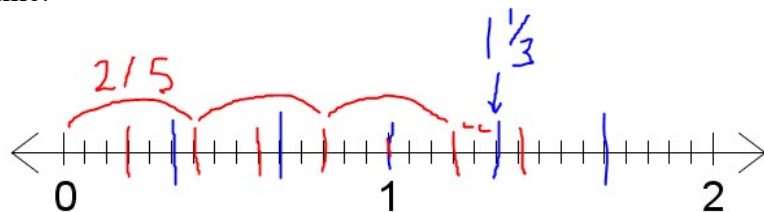
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

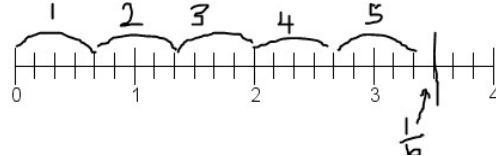
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

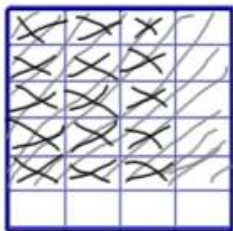
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



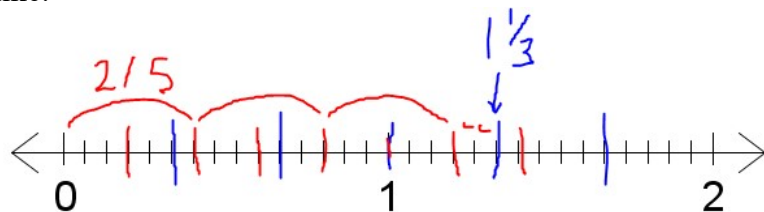
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

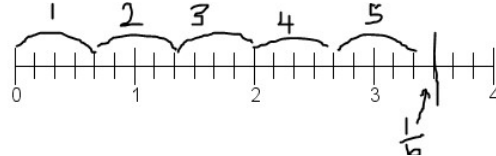
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

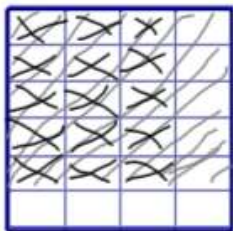
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



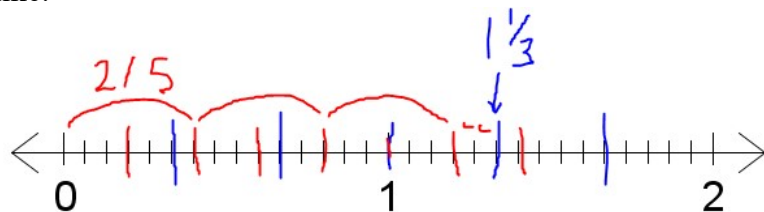
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

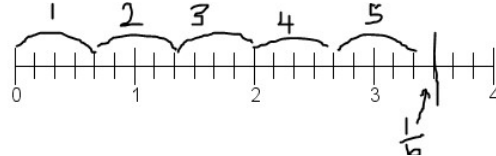
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

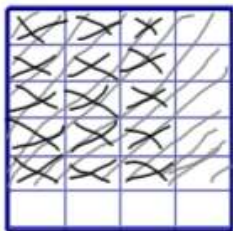
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



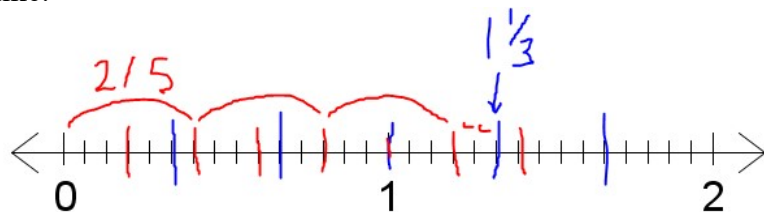
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

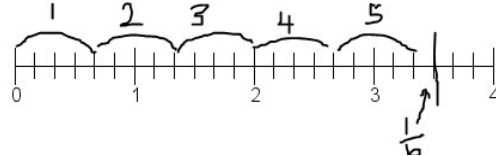
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

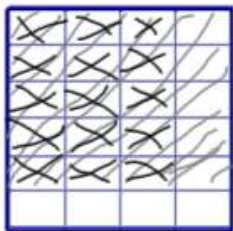
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



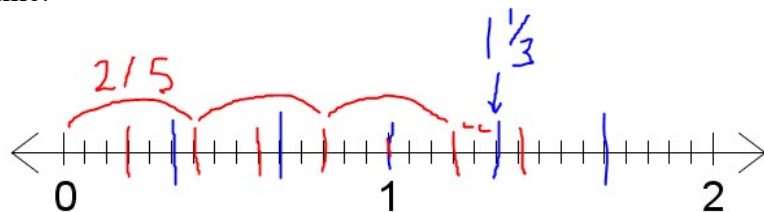
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

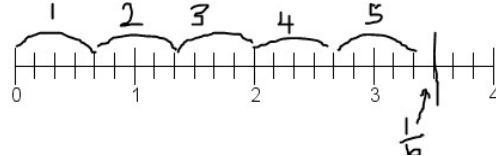
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

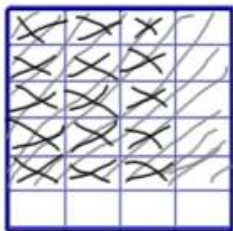
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



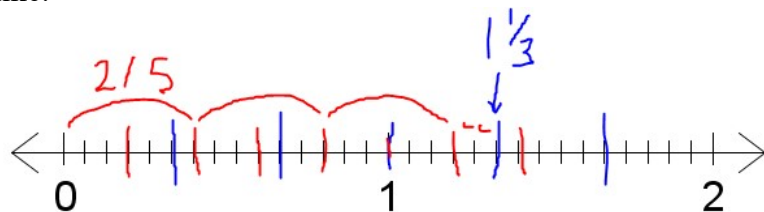
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

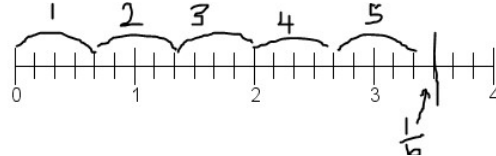
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

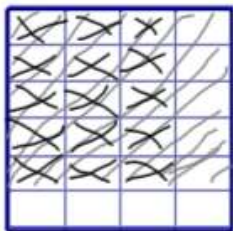
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



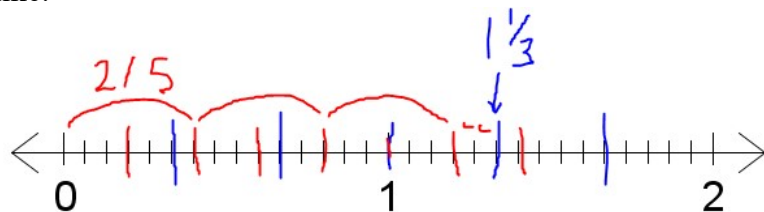
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

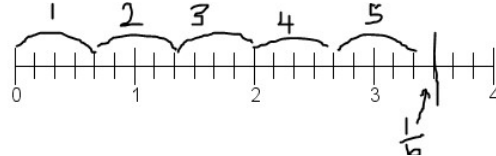
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

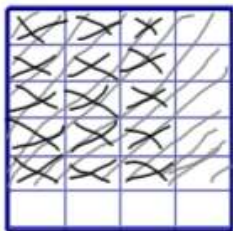
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



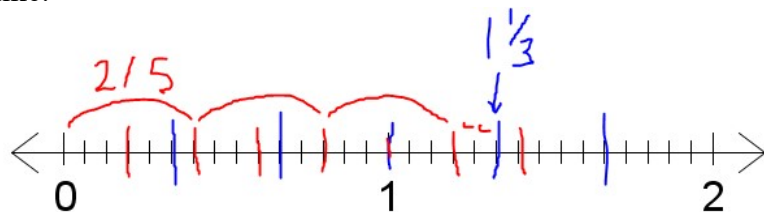
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

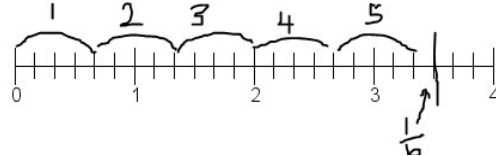
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

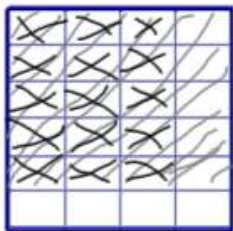
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



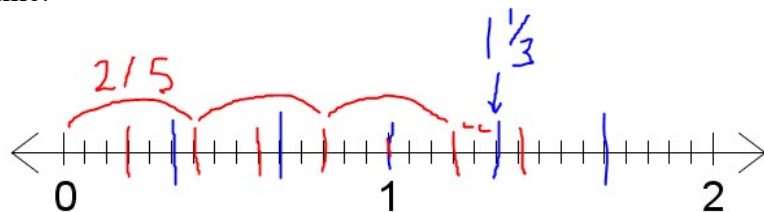
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

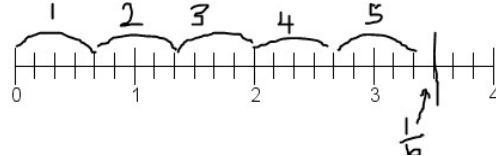
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

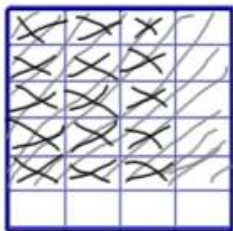
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



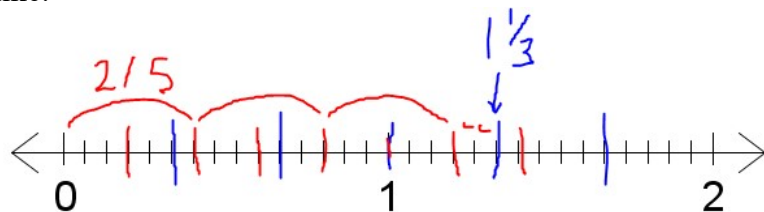
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

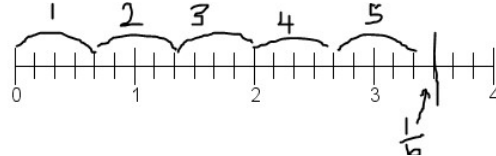
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

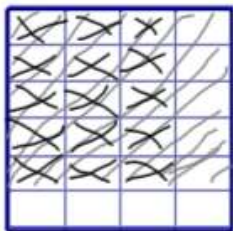
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



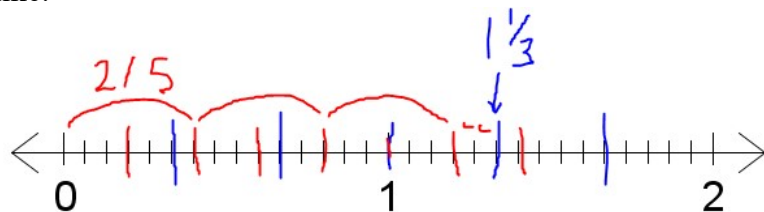
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

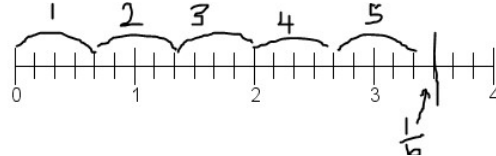
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

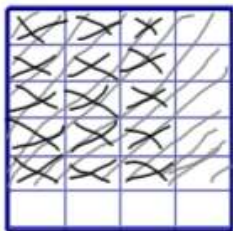
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



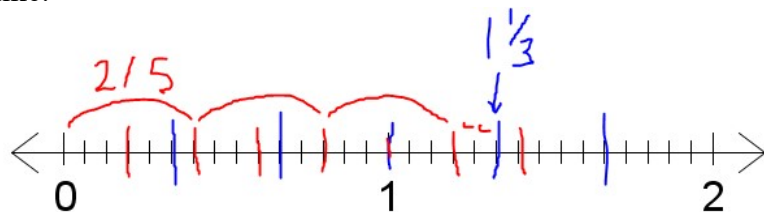
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

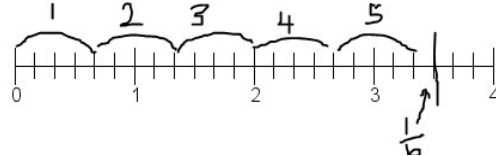
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

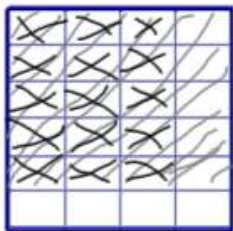
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



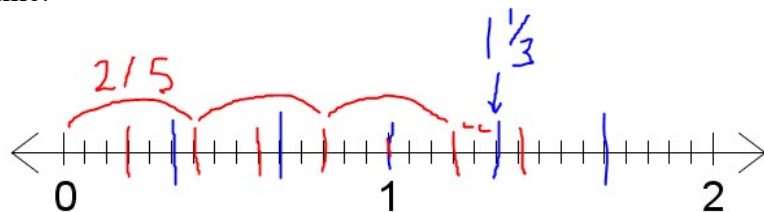
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

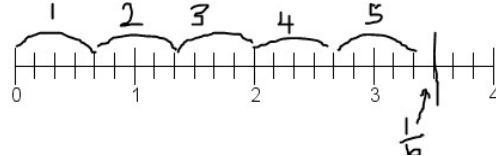
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

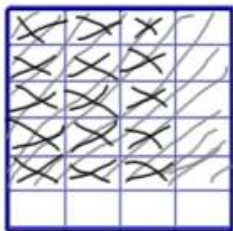
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



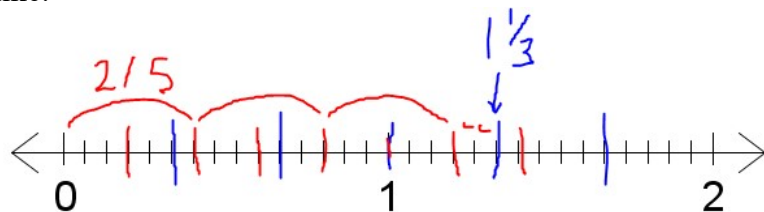
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

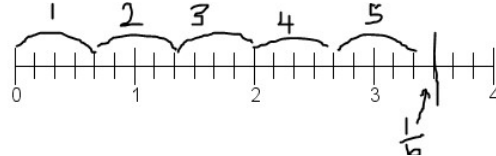
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

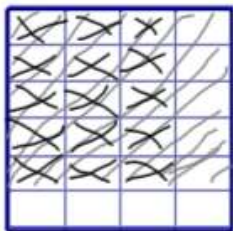
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



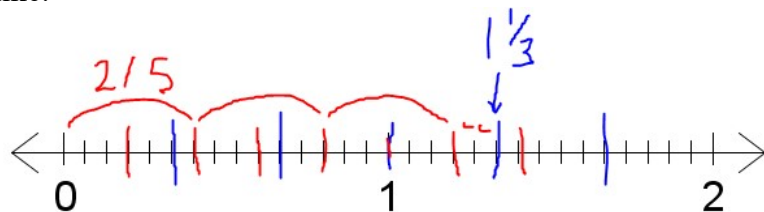
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

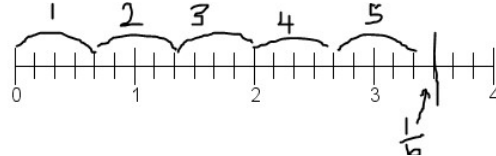
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

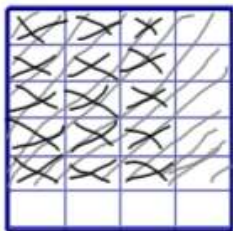
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



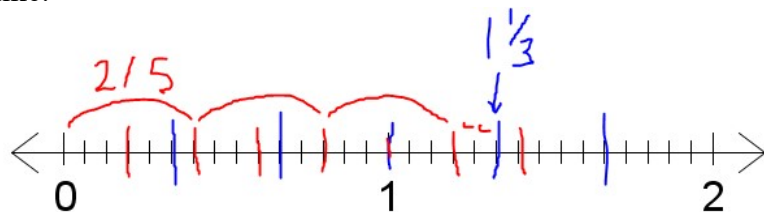
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

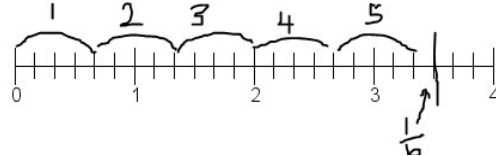
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

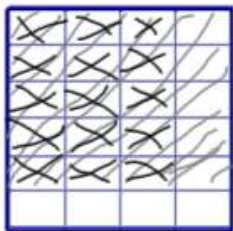
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



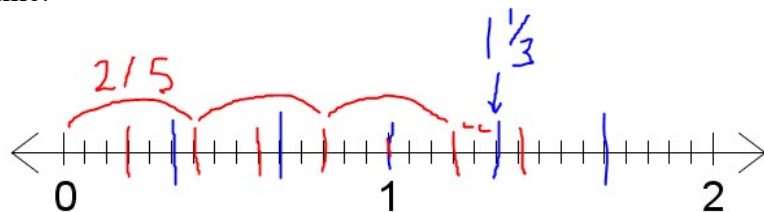
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

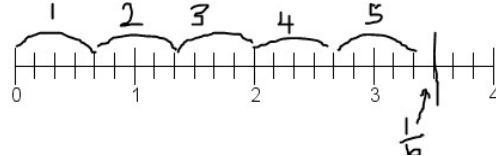
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

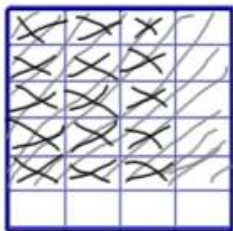
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



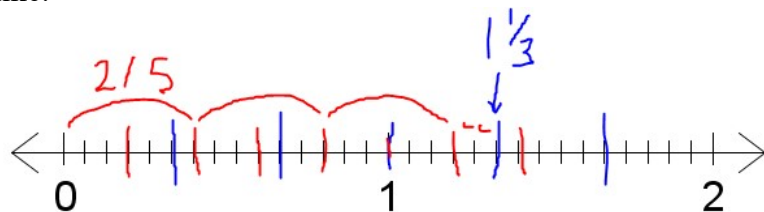
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

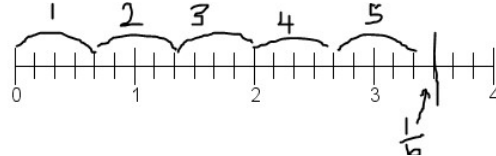
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

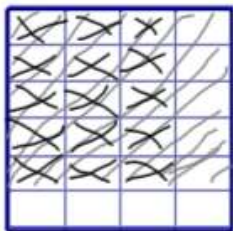
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



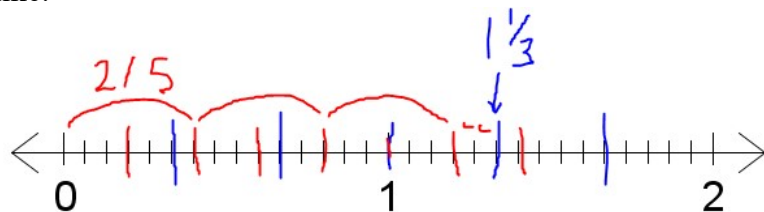
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

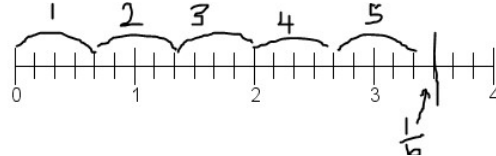
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

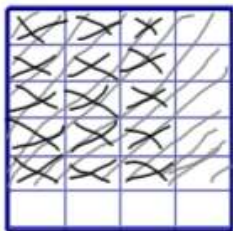
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



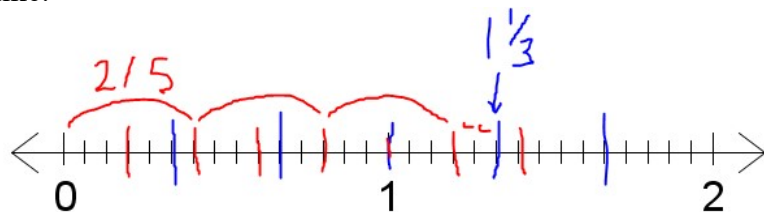
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

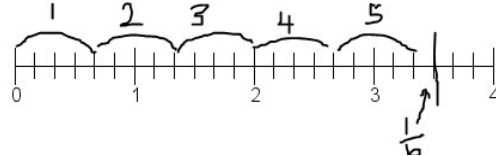
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

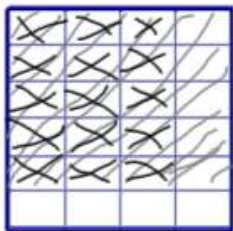
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



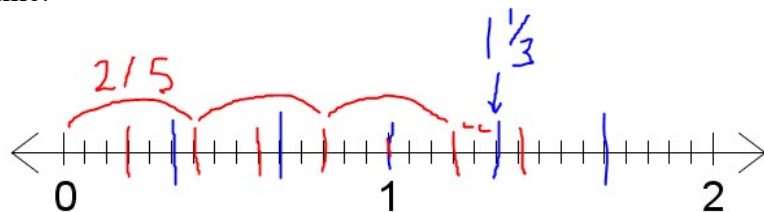
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$

Fraction review practice questions:

1. Which equation matches each question (note, some equations may be used twice, and others not at all)

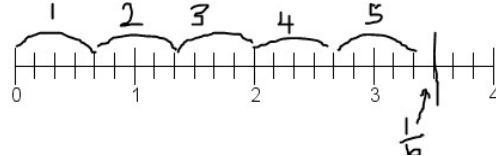
a. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in $\frac{2}{3}$ of a box of crackers?	i. $\frac{5}{4} + \frac{2}{3}$
b. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ of the box, how many lbs of crackers be left?	ii. $\frac{5}{4} - \frac{2}{3}$
c. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If my friends eat $\frac{2}{3}$ lb of crackers, how many lbs of crackers will be left?	iii. $\frac{5}{4} \times \frac{2}{3} = \frac{2}{3} \times \frac{5}{4}$
d. A full box of crackers holds $\frac{5}{4}$ lb of crackers. How many lbs of crackers is in 4 boxes of crackers?	iv. $\frac{5}{4} \div \frac{2}{3}$
e. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have 4 lbs of crackers, how many boxes is that?	v. $\frac{2}{3} \div \frac{5}{4}$
f. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have $\frac{2}{3}$ lbs of crackers, how many boxes is that?	vi. $4 \times \frac{5}{4} = \frac{5}{4} \times 4$
g. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ of a box of crackers, how many lbs of crackers do I have?	vii. $4 \div \frac{5}{4}$
h. A full box of crackers holds $\frac{5}{4}$ lb of crackers. If I have a box of crackers and another $\frac{2}{3}$ lbs of crackers, how many lbs of crackers do I have?	viii. $\frac{5}{4} \div 4$
i. A blue box of crackers holds $\frac{5}{4}$ lb of crackers. A red box of crackers holds $\frac{2}{3}$ lbs of crackers. How many more lbs of crackers are in a blue box than a red box.	ix. $\frac{5}{4} + \left(\frac{5}{4} \times \frac{2}{3}\right)$
j. A blue box of crackers holds $\frac{5}{4}$ lbs of crackers. A red box holds $\frac{2}{3}$ as much as a blue box. How many more crackers are in a blue box than a red box?	x. $\frac{5}{4} - \left(\frac{5}{4} \times \frac{2}{3}\right)$

2. The question was: *How many bowls can you fill, if each bowl holds $\frac{2}{3}$ cups of soup and you have $3 \frac{1}{2}$ cups of soup?*

Doug did:

$$\frac{7}{2} \div \frac{2}{3} = \frac{21}{6} \times \frac{4}{6} = \frac{21}{4} = 5 \frac{1}{4}$$

Evan did:



Who is correct? What does the $\frac{1}{4}$ mean in Doug's solution? (What is it $\frac{1}{4}$ of) What does the $\frac{1}{6}$ mean in Evan's solution? (what is it $\frac{1}{6}$ of)

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem.

c. Write a number sentence to solve the problem.

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Be prepared for problems like:

4. Write a word problem for:

a. $\frac{5}{4} + \frac{2}{3}$ b&c. $\frac{5}{4} - \frac{2}{3}$ (take away or compare) d. $\frac{5}{4} \times \frac{2}{3}$ e & f. $\frac{5}{4} \div \frac{2}{3}$ (partition or measurement)

5. Solve a word problem using a diagram

6. Explain a numerical solution from a diagram

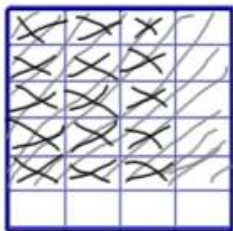
Some answers:

1a. iii. b. x. c. ii. d. vi e. vii f. v. g. ix h. i. i. ii. j. x.

2. Doug's answer is more correct without additional labelling: you can fill $5 \frac{1}{4}$ bowls of soup: $\frac{1}{4}$ represents $\frac{1}{4}$ of a bowl of soup. The $\frac{1}{6}$ in Evan's solution means there are 5 bowls of soup and $\frac{1}{6}$ of a cup of soup left over.

3. For the problem: Kelly had $\frac{5}{6}$ of a cup of sugar. She used $\frac{3}{4}$ of it to make a cake. How much sugar did she put in the cake?

a. Draw a diagram to solve the problem. b. Write a number sentence to solve the problem.



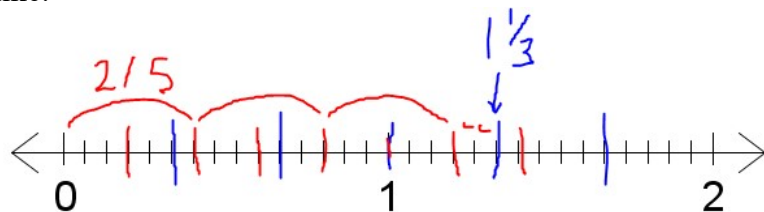
$$\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \frac{5}{8}$$

d. Use the diagram to explain the multiplications in the number sentence algorithm (numerator and denominator)

Each of the 6ths in a whole cup is split into 4 parts, so there are 4×6 parts in the whole (denominator)

In each of the 5 sixths that are shaded, 3 of the 4 parts are shaded again: 3 across and 5 down, so 3×5 parts are double shaded in the answer (numerator).

6. Division. For a division problem that is paraphrased as "how many $\frac{2}{5}$ are in $1 \frac{1}{3}$ " a diagram might look like:



In order to put $\frac{2}{5}$ and $1 \frac{1}{3}$ on the same number line, and get them in the right place, I had to make 15ths—a common denominator—and find the equivalent fractions with the common denominator:

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15} \quad \text{and} \quad 1 \frac{1}{3} = \frac{4 \times 5}{3 \times 5} = \frac{20}{15}$$

After I did that, I could make sets of $\frac{2}{5} = \frac{6}{15}$ grouping the 20 small parts in $\frac{20}{15}$ into groups of 6: which is

$20 \div 6$. Then I have 3 sets and 2 fifteenth-sized parts left over, which is $\frac{2}{6}$ of a set (6 make a whole set):

$$1 \frac{1}{3} \div \frac{2}{5} = \frac{20}{15} \div \frac{6}{15} = 20 \div 6 = \frac{20}{6} = 3 \frac{2}{6} = 3 \frac{1}{3}$$