

Figure out whether each problem is multiplication or division. Write down the number sentence that would compute the answer to the problem.

There are two good strategies:

- make it into a whole number problem and
- look for the problem structure (amount in sets and number of sets)

**Strategy 1:** figure it out by turning it into a **whole-number** problem:

1. A can holds  $1\frac{2}{3}$  cups of tomato sauce. How much tomato sauce is in  $1\frac{1}{4}$  cans?

**Whole number version(s):**

A can holds **2** cups of tomato sauce. How much tomato sauce is in **3** cans?  $2+2+2=3\times 2$

*Multiplication:*  $1\frac{2}{3} \times 1\frac{1}{4}$

2. I have  $\frac{3}{4}$  liters of soda. That's  $\frac{2}{3}$  of a serving. How much soda is in one serving?

**Whole number version(s):**

I have **2** liters of soda. That's **3** of a servings. How much soda is in one serving?  $2 \div 3$   
or

I have **6** liters of soda. That's **2** of a servings. How much soda is in one serving?  $6 \div 2$

*Division:*  $\frac{3}{4} \div \frac{2}{3}$

3. I have  $2\frac{5}{6}$  cups of pancake mix. A batch takes  $1\frac{1}{4}$  cups of mix. How many batches of pancakes can I make?

**Whole number version(s):**

I have **2** cups of pancake mix. A batch takes **3** cups of mix. How many batches of pancakes can I make?  $2/3$

I have **6** cups of pancake mix. A batch takes **2** cups of mix. How many batches of pancakes can I make?  $6 \div 2$

*Division:*  $2\frac{5}{6} \div 1\frac{1}{4}$

4. I have  $2\frac{2}{3}$  yards of string. That's enough to go around the table  $1\frac{1}{2}$  times. How many yards of string do I need to go around the table once?

**Whole number version(s):**

I have **2** yards of string. That's enough to go around the table **3** times. How many yards of string do I need to go around the table once?  $2/3$

I have **6** yards of string. That's enough to go around the table **2** times. How many yards of string do I need to go around the table once?  $6 \div 2$

*Division:*  $2\frac{2}{3} \div 1\frac{1}{2}$

5. A tube of paint holds  $1\frac{1}{3}$  ounces. How much paint is in  $\frac{2}{3}$  of a tube of paint?

**Whole number version(s):**

A tube of paint holds **2** ounces. How much paint is in **3** of a tubes of paint?  $2 \times 3$

*Multiplication:*  $1\frac{1}{3} \times \frac{2}{3}$

6. I have  $\frac{2}{3}$  cups of soda. A serving is  $\frac{3}{4}$  cup. How many servings do I have?

**Whole number version(s):**

I have **2** cups of soda. A serving is **3** cup. How many servings do I have?  $\frac{2}{3} \text{ cup}$

I have **6** cups of soda. A serving is **2** cup. How many servings do I have?  $6 \div 2$

*Division:*  $\frac{2}{3} \div \frac{3}{4}$

7. I have  $2\frac{1}{2}$  yards of fabric. It takes  $\frac{2}{3}$  yard of fabric to make a cub scout flag. How many flags can I make?

**Whole number version(s):**

I have **2** yards of fabric. It takes **3** yards of fabric to make a cub scout flag. How many flags can I make?  $\frac{2}{3}$

I have **6** yards of fabric. It takes **3** yards of fabric to make a cub scout flag. How many flags can I make?  $6 \div 3$

*Division:*  $2\frac{1}{2} \div \frac{2}{3}$

8. A bag of candy weighs  $1\frac{1}{2}$  lbs. How much does  $\frac{3}{5}$  of a bag of candy weigh?

**Whole number version(s):**

A bag of candy weighs **2** lbs. How much does **3** of a-bags of candy weigh?  $2 \times 3$

*Multiplication:*  $1\frac{1}{2} \times \frac{3}{5}$

9. I have  $2\frac{1}{3}$  cups of water. That fills the jar  $\frac{5}{8}$  of the way full. How much water would it take to fill the jar?

**Whole number version(s):**

I have **2** cups of water. That fills ~~the jar~~ **3** of ~~the way~~ jars full. How much water would it take to fill ~~the~~ one jar?  $\frac{2}{3}$

I have **6** cups of water. That fills ~~the jar~~ **3** of ~~the way~~ jars full. How much water would it take to fill ~~the~~ one jar?  $6 \div 3$

*Division:*  $2\frac{1}{3} \times \frac{5}{8}$

10. A bottle has  $\frac{2}{3}$  of a quart of juice in it. How much juice is in  $2\frac{1}{5}$  bottles?

**Whole number version(s):**

A bottle has ~~2~~ **2** of a quarts of juice in it. How much juice is in **3** bottles?  $2 \times 3$

*Multiplication:*  $\frac{2}{3} \times 2\frac{1}{5}$

11. I have  $2\frac{1}{2}$  ounces of dye. It takes  $\frac{3}{5}$  ounce of dye to dye 1 yard of fabric. How many yards of fabric can I dye?

**Whole number version(s):**

I have **2** ounces of dye. It takes **3** ounces of dye to dye 1 yard of fabric. How many yards of fabric can I dye?  $\frac{2}{3}$

I have **6** ounces of dye. It takes **3** ounce of dye to dye 1 yard of fabric. How many yards of fabric can I dye?  $6 \div 3$

*Division:*  $2\frac{1}{3} \div \frac{3}{5}$

12. I have  $2\frac{1}{4}$  pounds of apples. That's enough to make  $1\frac{3}{5}$  jars of applesauce. How many apples do I need for 1 jar of applesauce?

**Whole number version(s):**

I have **2** pounds of apples. That's enough to make **3** jars of applesauce. How many apples do I need for 1 jar of applesauce?  $\frac{2}{3}$  lb

I have **6** pounds of apples. That's enough to make **3** jars of applesauce. How many apples do I need for 1 jar of applesauce?  $6 \div 3$

*Division:*  $2\frac{1}{4} \div 1\frac{3}{5}$

Wow! I'm really in a rut. I need to mix up my wording. Check out these versions of 10-12 (they say the same thing, but the numbers are in a different order):

10 mixed up: How much juice is in  $2\frac{1}{5}$  bottles that each hold  $\frac{2}{3}$  qt?

**Whole number version(s):**

How much juice is in **2** bottles that each hold **3** qt?  $2 \times 3$

*Multiplication:*  $2\frac{1}{5} \times \frac{2}{3}$

11 mixed up: It takes  $\frac{3}{5}$  ounce of dye to dye 1 yard of fabric. I have  $2\frac{1}{2}$  ounces of dye. How many yards of fabric can I dye?

**Whole number version(s):**

It takes **2** ounces of dye to dye 1 yard of fabric. I have **3** ounces of dye. How many yards of fabric can I dye?  $3 \div 2$

It takes **2** ounces of dye to dye 1 yard of fabric. I have **6** ounces of dye. How many yards of fabric can I dye?  $6 \div 2$

*Division:*  $2\frac{1}{2} \div \frac{3}{5}$

12. mixed up: I made  $1\frac{3}{5}$  jars of applesauce. I used  $2\frac{1}{4}$  pounds of apples to make the applesauce. How many apples do I need for 1 jar of applesauce?

**Whole number version(s):**

I made **2** jars of applesauce. I used **3** pounds of apples to make the applesauce. How many apples do I need for 1 jar of applesauce?  $3 \div 2$

I made **2** jars of applesauce. I used **6** pounds of apples to make the applesauce. How many apples do I need for 1 jar of applesauce?  $6 \div 2$

*Division:*  $2\frac{1}{4} \div 1\frac{3}{5}$