

Ratio practice:

Expressing ratios in different ways:

1. Starting from the ratio information, the ratio of hardback to paperback books on my bookshelf is 3:5, express this same relationship in several ways, by filling each blank with a number:

- There are _____ as many hardback as paperback books on my shelf
- _____ of the books on my shelf are hardback books.
- Draw a bar diagram showing the relationship.

2. Halloween M&Ms come in two colors: black and orange. Starting from the information: 4/9 of the M&Ms are orange, express this same relationship in several ways, by filling each blank with a number:

- The ratio of black to orange M&Ms is ____:____
- There are _____ as many orange M&Ms as black ones.
- Draw a bar diagram showing the relationship

Solving problems with ratios. Make sure to use a representation that shows how to find the solution. Use bar diagrams and tables as appropriate to organize and explain your work.

3. The ratio of kinds of gum to kinds of candy in the candy store is 3:7. If there are 28 more kinds of candy than gum, how many kinds of gum are there?

4. The ratio of boys to girls in a class is 5:4. If there are 36 children in the class, how many of them are boys? Show how to solve this one with a bar diagram.

5. There are $\frac{2}{3}$ as many male teachers as female teachers in a school. If there are 30 teachers altogether, how many more female teachers than male teachers are there?

6. Mary has $\frac{3}{7}$ as many stickers as Susan. Susan has 32 more stickers than Mary. If Susan gives $\frac{1}{4}$ of her stickers to Mary, what will be the new ratio of Mary's stickers to Susan's?

7. Sarah cat weighs $\frac{3}{4}$ as much as Mimi cat. If they each lost 1 lb, they would weigh 19 lbs together. How much does each cat weigh?

8. The ratio grapes to strawberries in the bowl of fruit started at a ratio of 3:2. I added 2 strawberries and 2 grapes. There are now 16 strawberries. How many grapes are there?

9. At the pet store the ratio of mongrels to pure-breds is two to seven. Two more pure-bred dogs and two more mongrels are brought in. If there are 8 mongrels after the new dogs arrive, how many dogs are there now?

10. The Widdle Widget company manufactures Widgets and Doodads. One day Joe, who works on the Doodad production line, was sick, and for the first 6 hours of the shift, they made only $\frac{2}{3}$ as many Doodads as Widgets. For the last 2 hours, Dan was reassigned to Doodads, and they made equal amounts (25 each) of Doodads and Widgets. If they made 85 Doodads that day, how many Widgets did they make?