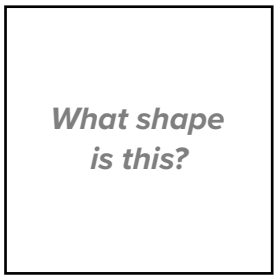
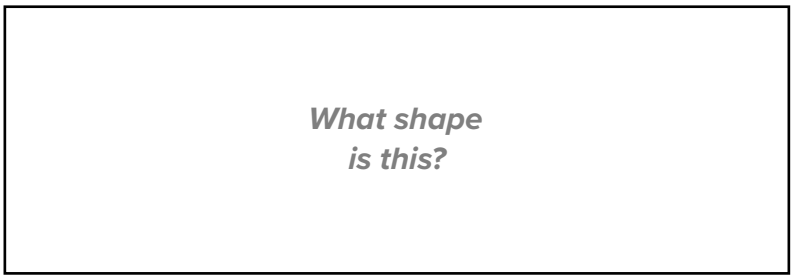
The Power of Per

Ratio and rate: What's the diff?

You probably know this old trick:





If you said one is a square and one is a rectangle, you're right. And if you said they are both rectangles, you're also right! That's true even though the shape on the left is also a square. A square is a special kind of rectangle—one with equal side lengths.

Similarly, a **rate** is a special kind of **ratio**.

A **ratio** is just a comparison of amounts.

For example: In Ms. Litton's class, there are 15 girls to 16 boys.

You can also write this in other ways:

15 girls:16 boys

$$\frac{15 \text{ girls}}{16 \text{ boys}}$$

→ What is the gender **ratio** in your class?

By the way, it is also correct to use a total in the comparison instead of the way it's done above. For example: In Ms. Litton's class there are 15 girls to 31 total students. It's more like a simple fraction this way, but it's still correct.

15 girls:31 students

A **rate** is a special type of **ratio** that uses two different kinds of units together to give information. In Ms. Litton's class, we compared the number of girls to boys—all the same unit (students). But consider a different situation: You just got a job that pays $75,000 a year. In this case, you are putting together an amount of money and an amount of time. Two totally different units. This is a **rate**.

$75,000/year

You also use **rates** when you talk about **speed**. **Speed** is *always* a **rate**:

25 miles **per** hour (mph)

$$\frac{0.75 \text{ meters}}{5 \text{ seconds}}$$