

Review: Ratios

A *ratio* is a comparison of one quantity to another.

Example 1:

On school field trips, there must be 2 teachers for every 40 students.

As a ratio, this is 2:40; as a fraction, this is $\frac{2}{40}$.

Like fractions, ratios can be written in *lowest terms*.

Example 2: From example 1, the ratio 2:40 can be written as 1:20 (divide each number by 2). So saying “2 teachers for every 40 students” is equivalent to saying “1 teacher for every 20 students.”

Problem solving with ratios often involves finding the “missing part” of a ratio.

Example 3: Mr. Kim wants to take 150 kids on a rock climbing field trip. How many teachers will this field trip need?

We know that we need 2 teachers for 40 students, and want to know how many (x) for 150 students.

$$2:40 = x:150$$

$$\frac{2}{40} = \frac{x}{150}$$

$$2(150) = 40x$$

$$300 = 40x$$

$$\frac{300}{40} = x$$

$$7.5 = x$$

Therefore we need 7.5 teachers for this trip. Of course, we can't have a half-teacher, so we need **8**.