



## Solving Proportions with Word Problems; a:b as c:d (read a is to b as c is to d)

- Procedure:**
- 1. Set up the ratios as fractions**
  - 2. Set the two ratios equal**
  - 3. Solve the proportion**

**Example:**

If a car drives 6 miles in 18 minutes, how far will it drive in 54 minutes?

$$\frac{6}{18} = \frac{n}{54},$$

$$18n = 6 \times 54,$$

$$18n = 324,$$

$$n = 18. \quad \text{Therefore, the car drives 18 miles in 54 minutes.}$$

**Solve the following problems by setting up a proportion.**

1. If a bike travels 5 miles in 20 minutes, how long does it take to travel 25 miles?
2. If there are 3 girls to every 7 boys at school, how many girls would there be if there are 42 boys at school?
3. If a 3,000 sq ft house costs \$360,000, how much does an equivalent 4,000 sq ft house cost?
4. If a student got 22 out of 25 answers right on a test, how many answers did he get right on a test out of 100 (this would also be considered his percentage)?
5. If a map represents 200 miles by 1 inch, how many miles is represented by 7.5 inches?
6. If a family of four pays \$56.25 at a restaurant, how much would a family of six pay?