



Solving Proportions with Word Problems; $y = kx$

Example:

If a car drives 7 miles (x) in 28 minutes (y), how far will it drive in 64 minutes?

First, we find the minutes per mile.

$$y = kx,$$

$$28 = k(7),$$

$$4 = k.$$

Thus, it takes the car 4 minutes per mile.

Now, we must find how many miles are driven in 64 minutes.

$$y = kx,$$

$$64 = 4x,$$

$$16 = x.$$

Therefore, the car will drive 16 miles in 64 minutes.

Solve the following problems by finding the constant of variation.

1. A speed reader can read a 90,000 word book in 150 minutes. How long would it take them to read a 10,800 word chapter?
2. If a car drives 390 miles in 6 hours, how long does it take to drive 130 miles?
3. A student can type on average 210 words in 3 minutes. How long would it take for them to type a 1,001 word paper?
4. A girl's hair is 23 inches long and grows about half an inch every month. How long will her hair be in 2 years?
5. A child jumping rope can jump at a speed of 280 revolutions every 2 minutes. What is the number of revolutions the child can jump in 3.5 minutes?