

Name: _____

Direct Variation Homework

1. y varies directly as x . Find the constant of variation and write an equation of direct variation given the following information.

(A) y is 14 when x is 2

$$k = \frac{y}{x} = \frac{14}{2} = 7$$

$$k = 7$$

$$y = 7x$$

(B) y is 5 when x is 8

$$k = \frac{y}{x} = \frac{5}{8}$$

$$k = \frac{5}{8}$$

$$y = \left(\frac{5}{8}\right)x$$

(C) y is 4.5 when x is 15

$$k = \frac{y}{x} = \frac{4.5}{15} = \frac{9}{30} = \frac{3}{10}$$

$$k = \frac{3}{10}$$

$$y = \left(\frac{3}{10}\right)x$$

(D) y is 2 when x is 8

$$K = \frac{y}{x} = \frac{5}{8}$$

$$k = \frac{5}{8}$$

$$y = \left(\frac{5}{8}\right)x$$

2. y varies directly as x . Find the missing value.

(A) y is 14 when x is 2. Find x when y is 21.

(B) y is 5 when x is 8. Find y when x is 28.

(C) y is 27 when x is 3. Find x when y is 4.5.

3. Use the given relationships to determine the information about the application.

(A) distance = rate • time.

If a car travels 15 miles per hour, how far has it traveled after 3 hours?

(B) Force = spring constant, k • length

A certain spring ($k = 3.5$) has a force of 5 N applied to it. How far will it stretch?