Known

Unknown

Substitute

Solve

$A = \frac{1}{2}(b_1 + b_2)h$

$A = 18\ in^2$

$b_1 = 8\ in$

$b_2 = x$

$h = 3\ in$

$2 \cdot 18 = \frac{2}{1} \cdot \frac{1}{2}(8+x)3$

$36 = (8+x)3$

$36 = 24 + 3x$

$-24 \quad -24$

$\frac{12}{3} = \frac{3x}{3}$

$x = 4\ in$

1. The formula $A = l \cdot w$ gives the area of a rectangle in which A is the area, l is the length and w is the width. Given that the area of a rectangle is $36\ cm^2$ and the length is 4 cm, find the width.

L

$A = l \cdot w$

$A = 36\ cm^2$

$l = 4\ cm$

$w = w$

$\frac{36}{4} = \frac{4w}{4}$

$w = 9\ cm$

2. You can find the rate of an object by using the formula $R = \frac{D}{T}$ where r is the rate, d is the distance, and t is the time. If you are driving at a constant speed of 65 miles per hour, how long will it take you to travel 325 miles?

$R = \frac{D}{T}$ $T \cdot 65 = \frac{325}{T} \cdot T$

$R = 65$ m/h $\frac{65T}{65} = \frac{325}{65}$

$D = 325$ mi

$T = 5$ hours

3. You are given the simple interest formula $I = Prt$ where I is the simple interest earned by principle p at an annual interest rate r over t years. You deposit $250 in a bank account that pays an annual interest rate of 2%. How much simple interest will you earn after two years?

$I =$

$P = 250$

$r = 2\% = .02$

$t = 2$

$I = 250(.02)2$

$I = \$10$

$$R = \frac{D}{T}$$

4. Given the rate formula in example 2, find the average speed for an airplane traveling 2100 miles in 6 hours.

$$R = \frac{2100}{6}$$

$$R = 350 \text{ mph}$$

5. The formula $C = \frac{5}{9}(F - 32)$ gives the Celsius temperature C in terms of the Fahrenheit temperature F. Given that the temperature is 86 degrees Fahrenheit, find the temperature in degrees Celsius.

$C = ?$

$F = 86$

$C = \frac{5}{9}(86 - 32)$

$C = \frac{5}{9}(54)$

$C = 30$

6. The area of a triangle is found by using the formula $A = \frac{1}{2} b \cdot h$ where A is the area, b is the base, and h is the height. If the area is 18 and the length of the height is 4, find the length of the base.

$A = \frac{1}{2} b h$

$A = 18$

$h = 4$

$b = ?$

$18 = \frac{1}{2} \cdot b \cdot 4$

$18 = \frac{1}{2}(4) b$

$\frac{18}{2} = \frac{2b}{2}$

$b = 9$