

What you will learn about:
Solve Formula for Specific Variable

$$d = rt$$

$$\begin{array}{r} 1 \\ 12 \\ \times 35 \\ \hline 360 \\ 420 \end{array}$$

$$\frac{d = rt}{r} \quad \frac{d}{r} = t$$

$$d = rt$$

$$\underline{r = \frac{d}{t}}$$

Jamal rides his bike at a uniform rate of 12 miles per hour for $3\frac{1}{2}$ hours. What distance has he traveled?

$$d = rt$$

$$= (12 \text{ mph})(3.5 \text{ hr})$$

$$d = 42 \text{ mi}$$

Rey is planning to drive from his house in San Diego to visit his grandmother in Sacramento, a distance of 520 miles. If he can drive at a steady rate of 65 miles per hour, how many hours will the trip take?

$$t = \frac{520}{65}$$

$$= 8 \text{ hrs.}$$

$$\begin{array}{r} 4 \quad 8 \\ 65 \overline{) 520} \\ \underline{- 520} \\ 0 \end{array}$$

Sarah is 168 miles from Chicago. If she needs to be in Chicago in 3 hours, at what rate does she need to drive?

$$r = \frac{168}{3}$$

$$r = 56 \text{ mi/hr}$$

$$\begin{array}{r} 56 \\ 3 \overline{) 168} \\ \underline{15} \\ 18 \end{array}$$

Solve the formula $d = rt$, for t

When $d = 520$ and $r = 65$

in general

$$t = \frac{d}{r} = \frac{520}{65}$$

$$= 8 \text{ hr}$$

$$\frac{A}{\frac{1}{2}} = A \div \frac{1}{2}$$

$$A \cdot 2$$

$$2(A) = \left(\frac{1}{2}bh\right) \cdot 2$$

$$2A = bh$$

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

$$\frac{I}{rt} = \frac{Prt}{rt}$$

$$P = \frac{I}{rt}$$

Solve the formula $d = rt$, for r

When $d = 180$ and $t = 4$ in general

$$r = \frac{d}{t}$$

$$r = \frac{180}{4}$$

$$r = 45 \text{ mi/hr}$$

$$\begin{array}{r} 45 \\ 4 \overline{)180} \\ \underline{-16} \\ 20 \end{array}$$

Solve the formula $A = \frac{1}{2}bh$ for h

When $A = 90$ and $b = 15$ in general

$$2(A) = \left(\frac{1}{2}bh\right) \cdot 2$$

$$h = \frac{2(90)}{15} = \frac{180}{15}$$

$$2A = bh$$

$$h = 12$$

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

$$\begin{array}{r} 12 \\ 15 \overline{)180} \\ \underline{-15} \\ 30 \end{array}$$

Solve the formula $A = \frac{1}{2}bh$ for b

When $A = 62$ and $h = 31$ in general

$$b = \frac{2A}{h} = \frac{2(62)}{31}$$

$$= 4$$

Solve the formula $I = Prt$ to find the principle, P

When $I = \$5,600$, $r = 4\%$, $t = 7$ years In General

$$P = \frac{I}{rt} = \frac{5600}{(.04)(7)} = \frac{5600}{.28}$$

$$P = \$20,000$$

$$\begin{array}{r} 20000. \\ 28 \overline{)560000} \\ \underline{56} \\ 0 \end{array}$$

Solve the formula $I = Prt$ to find the principle, P

When $I = \$2,160$, $r = 6\%$, $t = 3$ years In General

$$P = \frac{I}{rt} = \frac{2160}{(.06)(3)} = \frac{2160}{(.18)}$$

$$P = \$12,000$$

$$\begin{array}{r} 12000 \\ 18 \overline{) 216000} \\ \underline{18} \\ 36 \\ \underline{36} \\ 0 \end{array}$$

Solve the formula $3x + 2y = 18$ for y :

When $x = 4$

in general

$$3x + 2y = 18$$

$$-3x = -3x$$

$$2y = 18 - 3x$$

$$y = \frac{18 - 3x}{2}$$

$$= 9 - \frac{3}{2}x$$

$$9 - \frac{3}{2}(4)$$

$$9 - 6$$

$$3$$

Solve the formula $3x + 4y = 10$ for y :

When $x = \frac{14}{3}$

in general

$$3x + 4y = 10$$

$$4y = 10 - 3x$$

$$y = \frac{10 - 3x}{4}$$

$$\frac{10 - 3\left(\frac{14}{3}\right)}{4}$$

$$4$$

$$\frac{10 - 14}{4} = \frac{-4}{4} = -1$$

Solve the formula $P = a + b + c$ for a .

$$a = P - b - c$$

$$= P - (b + c)$$