

Please have your homework on your desk. Calculator? Yes!

DATE:

TSW solve literal equations.

QRQ4:

Solve

$$1 \quad 2(x+7) = -3(x-7) \quad 2 \quad 3x+2 = \frac{1}{3}(6x+9)$$

Solve each equation for the identified variable.

Ex1 $a = \frac{bcd}{bd}$ Solve for c

$$\frac{a}{bd} = c$$

Ex2 Solve for r

$$m = \frac{n^2 pr}{n^2 p}$$

$$\frac{m}{n^2 p} = r$$

Now You Try These!

Solve each equation for the identified variable.

1 $\frac{wxy}{wx} = z$ Solve for y

$$y = \frac{z}{wx}$$

2 $V = \frac{\pi r^2 h}{\pi r^2}$ Solve for h

$$\frac{V}{\pi r^2} = h$$

Ex3 Solve for x

$$ax - 7 = b$$

$$\frac{ax}{a} = \frac{b+7}{a}$$

$$x = \frac{b+7}{a}$$

3 Solve for x $b = ax + 8$

$$\frac{b-8}{a} = \frac{ax}{a}$$

$$\frac{b-8}{a} = x$$

Ex4 Solve for m

$$y = mx + b$$

$$\frac{y - b}{x} = \frac{mx - b}{x}$$

$$\frac{y - b}{x} = m$$

4

Solve for a $ax + b = c$

$$\frac{ax - b}{x} = \frac{c - b}{x}$$

$$a = \frac{c - b}{x}$$

Ex5

$$2x + 3y = 12$$

$$\frac{3y - 2x + 12}{3} = \frac{-2x + 12}{3}$$

$$y = -\frac{2}{3}x + 4$$

$y = mx + b$

Solve for y

$$\frac{-2}{3}x + \frac{12}{3}$$

5

Solve for y $10x + 5y = 15$

$$\frac{5y - 10x + 15}{5} = \frac{-10x + 15}{5}$$

$$y = -2x + 3$$

Ex6

$$-3x + 6y = 18$$

$$\frac{6y + 3x - 18}{6} = \frac{3x - 18}{6}$$

$$y = \frac{1}{2}x + 3$$

Solve for y

$$\frac{3}{6}x + \frac{18}{6}$$

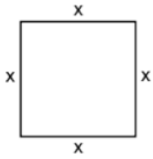
6

Solve for y $-8x + 4y = 12$

$$\frac{4y + 8x - 12}{4} = \frac{8x - 12}{4}$$

$$y = 2x + 3$$

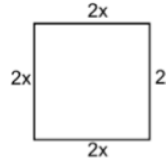
Ex7



The perimeter of this square is 88 units.
Find the length of each side.

$$\begin{aligned} x + x + x + x &= 88 \\ 4x &= 88 \\ \frac{4x}{4} &= \frac{88}{4} \\ x &= 22 \end{aligned}$$

7

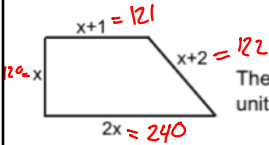


The perimeter of this square is 256 units.
Find the length of each side.

$$\begin{aligned} 2x + 2x + 2x + 2x &= 256 \\ 8x &= 256 \\ \frac{8x}{8} &= \frac{256}{8} \\ x &= 32 \end{aligned}$$

$2x = 2(32) = 64$
↑
side length

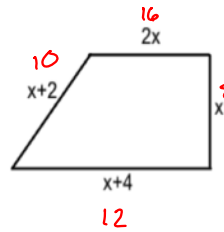
Ex8



The perimeter of this trapezoid is 603 units. Find the length of each side.

$$\begin{aligned} x + x + 1 + x + 2 + 2x &= 603 \\ 5x + 3 &= 603 \\ -3 & \quad -3 \\ \frac{5x}{5} &= \frac{600}{5} \\ x &= 120 \end{aligned}$$

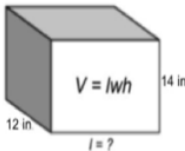
8



The perimeter of this trapezoid is 46 units. Find the length of each side.

$$\begin{aligned} x + x + 16 + x + 2 + x &= 46 \\ 5x + 18 &= 46 \\ -18 & \quad -18 \\ \frac{5x}{5} &= \frac{28}{5} \\ x &= 8 \end{aligned}$$

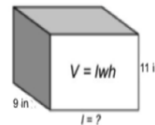
Ex9



The volume of a rectangular solid is 3024 cubic inches. The dimensions are given in the figure at left. Find l .

$$\begin{aligned} V &= lwh \\ 3024 &= l(12)(14) \\ 3024 &= l(168) \\ \frac{3024}{168} &= \frac{168}{168} \\ 18 &= l \end{aligned}$$

9



The volume of a rectangular solid is 1188 cubic inches. The dimensions are given in the figure at left. Find l .

$$\begin{aligned} V &= lwh \\ 1188 &= l(9)(11) \\ \frac{1188}{99} &= \frac{99l}{99} \\ 12 &= l \end{aligned}$$

Ex10 Susie is making a rectangular quilt that is 3 feet longer than it is wide. If the perimeter of the quilt is 30 feet, what will be the dimensions of the quilt?

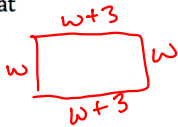
$$w + w + (w + 3) + (w + 3) = 30$$

$$4w + 6 = 30$$

$$\begin{array}{r} -6 \quad -6 \\ \hline 4w = 24 \\ \frac{4}{4} \quad \frac{4}{4} \\ \hline w = 6 \end{array}$$

$$w = 6$$

$$\begin{aligned} w &= \text{width} = 6 \\ w + 3 &= \text{length} = 6 + 3 = 9 \end{aligned}$$



10 Mark's grandmother is crocheting a blanket for her new grandchild. The blanket will be 12 inches longer than it is wide. If the perimeter of the blanket is 36 feet, what will be the dimensions of the blanket?

$$w + w + w + 12 + w + 12 = 36$$

$$4w + 24 = 36$$

$$\begin{array}{r} -24 \quad -24 \\ \hline 4w = 12 \\ \frac{4}{4} \quad \frac{4}{4} \\ \hline w = 3 \end{array}$$

$$w = 3$$

$$w = \text{width} = 3$$

$$w + 12 = \text{length} = 3 + 12 = 15$$

