

Solving Equations 11
Geometry

Solve, check, and graph the following equations.

1) $-5(4 + m) = 15$

$m = -7$

2) $\frac{-132}{4} = \frac{4(-9 + 4q)}{4}$

$$\begin{aligned} -33 &= -9 + 4q \\ +9 & \quad +9 \\ \hline -24 &= 4q \\ \frac{-24}{4} &= \frac{4q}{4} \end{aligned}$$

$-6 = q$



$$\begin{aligned} \checkmark -132 &= 4(-9 + 4(-6)) \\ -132 &= 4(-9 + (-24)) \\ -132 &= 4(-33) \\ -132 &= -132 \checkmark \end{aligned}$$

$x = -9$

3) $-201 = 3(7x - 4)$

4) $3x - 10x = -35$

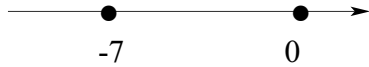
$x = 5$

5) $p - 9p = 56$

$$\begin{aligned} -8p &= 56 \\ -8 & \quad -8 \end{aligned}$$

$p = -7$

$$\begin{aligned} \checkmark (-7) - 9(-7) &= 56 \\ -7 + 63 &= 56 \\ 56 &= 56 \checkmark \end{aligned}$$



6) $3d = -39 - 10d$
 $+ 10d \quad + 10d$

$$\begin{aligned} 13d &= -39 \\ 13 & \quad 13 \end{aligned}$$

$d = -3$

$$\begin{aligned} \checkmark 3(-3) &= -39 - 10(-3) \\ -9 &= -39 + 30 \\ -9 &= -9 \checkmark \end{aligned}$$



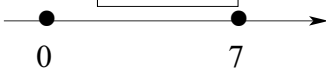
7) $9g = 8g - 10$

$g = -10$

8) $13j + 39 = 67 + 9j$
 $-9j \quad -9j$

$$\begin{aligned} 4j + 39 &= 67 \\ -39 & \quad -39 \\ \hline 4j &= 28 \\ 4 & \quad 4 \end{aligned}$$

$j = 7$



9) $-8a + 2a + 13 = 73$

$a = -10$

$$\begin{aligned} \checkmark 13(7) + 39 &= 67 + 9(7) \\ 91 + 39 &= 67 + 63 \\ 130 &= 130 \checkmark \end{aligned}$$

10) $-12 + 7c - 15c + 31 = -77$

$$\begin{aligned} -8c + 19 &= -77 \quad \checkmark -12 + 7(12) - 15(12) + 31 = -77 \\ -19 & \quad -19 \quad -12 + 84 - 180 + 31 = -77 \\ \hline -8c &= -96 \\ -8 & \quad -8 \end{aligned}$$

$c = 12$



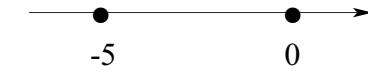
$$11) -25 - 6x = -79 + 3x$$

$$x = 6$$

$$12) -12w + 6 = -6(4 + 3w)$$

$$\begin{array}{r} -12w + 6 = -24 - 18w \\ +18w \quad \quad +18w \\ \hline 6w + 6 = -24 \\ \quad -6 \quad -6 \\ \hline 6w = -30 \\ \quad 6 \quad 6 \end{array}$$

$$w = -5$$



$$13) -4x + 4 = -2(10 - x)$$

$$x = 4$$

