

Solving Equations 5 (KEY)
Geometry

Evaluate the following expressions given the indicated value for the variable.

1) $14 - d + 13 \cdot 2$, $d = -6$

$$\begin{aligned} 14 - (-6) + 13 \cdot 2 \\ 14 + 6 + 26 \end{aligned}$$

$= 46$

2) $48 \div 3(v)^2 - 4(v)$, $v = -2$

$$\begin{aligned} 48 \div 3(-2)^2 - 4(-2) \\ 48 \div 3(4) - (-8) \\ 16(4) + 8 \\ 64 + 8 \end{aligned}$$

$= 72$

Solve, check and graph the following equations

3) $77 = 54 + k$

$$\begin{array}{r} -54 \\ \hline -54 \end{array}$$

$23 = k$

$$\begin{aligned} \checkmark 77 &= 54 + (23) \\ 77 &= 77 \checkmark \end{aligned}$$



4) $-51 = -16 + z$

$$\begin{array}{r} +16 \\ \hline +16 \end{array}$$

$-35 = z$

$$\begin{aligned} \checkmark -51 &= -16 + (-35) \\ -51 &= -51 \checkmark \end{aligned}$$

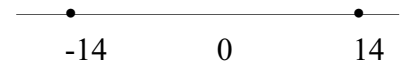


5) $a^2 = 196$

$$\sqrt{a^2} = \sqrt{196}$$

$a = \pm 14$

$$\begin{aligned} \checkmark (14)^2 &= 196 & (-14)^2 &= 196 \\ 196 &= 196 \checkmark & 196 &= 196 \checkmark \end{aligned}$$



6) $-8 = 5p + 7$

$$\begin{array}{r} -7 \quad -7 \\ \hline -15 = \frac{5p}{5} \end{array}$$

$-3 = p$

$$\checkmark -8 = 5(-3) + 7$$

$$\begin{aligned} -8 &= -15 + 7 \\ -8 &= -8 \checkmark \end{aligned}$$



7) $\frac{p}{9} - 11 = -7$

$$\begin{array}{r} +11 \quad +11 \\ \hline \end{array}$$

$$(9) \frac{p}{9} = 4(9)$$

$p = 36$

$$\checkmark \frac{(36)}{9} - 11 = -7$$

$$\begin{aligned} 4 - 11 &= -7 \\ -7 &= -7 \checkmark \end{aligned}$$



8) $b^2 + 14 = 183$

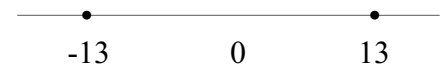
$$\begin{array}{r} -14 \quad -14 \\ \hline \end{array}$$

$$\sqrt{b^2} = \sqrt{169}$$

$b = \pm 13$

$$\checkmark (13)^2 + 14 = 183 \quad (-13)^2 + 14 = 183$$

$$\begin{aligned} 169 + 14 &= 183 & 169 + 14 &= 183 \\ 183 &= 183 \checkmark & 183 &= 183 \checkmark \end{aligned}$$



9) $63 = \frac{v}{3} + 39$

$$\begin{array}{r} -39 \quad -39 \\ \hline \end{array}$$

$$(3)24 = \frac{v}{3}(3)$$

$72 = v$

10) $-j - 17 = 28$

$$\begin{array}{r} +17 \quad +17 \\ \hline \end{array}$$

$$-j = 45$$

$$-1 \quad -1$$

11) $100 = 44 - 4m^2$

$$\begin{array}{r} -44 \quad -44 \\ \hline \end{array}$$

$$\underline{56} = \underline{-4m^2}$$

$$-4 \quad -4$$

$$j = -45$$

$$\checkmark 63 = \frac{(72)}{3} + 39$$

$$63 = 24 + 39$$

$$63 = 63 \checkmark$$



$$-(-45) - 17 = 28$$

$$45 - 17 = 28$$

$$28 = 28 \checkmark$$



$$-14 = m^2$$

No Real Solution