

Geometry

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

1) $-17 + 3(x + 9)^2 \div 3, x = 4$

$$-17 + 3((4) + 9)^2 \div 3$$

$$-17 + 3(13)^2 \div 3$$

$$-17 + 3(169) \div 3$$

$$-17 + 507 \div 3$$

$$-17 + 169$$

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2) $6 \cdot 4^2 \div 12 - p, p = 12$

$$6 \cdot 4^2 \div 12 - (12)$$

$$6 \cdot 16 \div 12 - 12$$

$$96 \div 12 - 12$$

$$8 - 12$$

 -4

Solve, check and graph the following equations

3) $p - 31 = 18$

$$+31 \quad +31$$

$$p = 49$$

$$\checkmark (49) - 31 = 18$$

$$18 = 18 \checkmark$$



4) $\frac{-104}{-13} = \frac{-13c}{-13}$

$$-13 \quad -13$$

$$8 = c$$

$$\checkmark -104 = -13(8)$$

$$-104 = -104 \checkmark$$



5) $\frac{y}{-3} = -16 \Rightarrow (-3) \frac{y}{-3} = -16(-3)$

$$y = 48$$

$$\checkmark \frac{(48)}{-3} = -16$$

$$-16 = -16 \checkmark$$



6) $3x + 5 = 26$

$$\frac{-5}{3} \quad \frac{-5}{3}$$

$$\frac{3x}{3} = \frac{21}{3}$$

$$x = 7$$

$$\checkmark 3(7) + 5 = 26$$

$$21 + 5 = 26$$

$$26 = 26 \checkmark$$



7) $\frac{5x^2}{5} = \frac{45}{5}$

$$x^2 = 9$$

$$\sqrt{x^2} = \sqrt{9}$$

$$x = \pm 3$$

$$\checkmark 5(3)^2 = 45$$

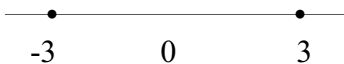
$$5(9) = 45$$

$$45 = 45 \checkmark$$

$$5(-3)^2 = 45$$

$$5(9) = 45$$

$$45 = 45 \checkmark$$



8) $13 = -6d - 11$

$$+11 \quad +11$$

$$\frac{24}{-6} = \frac{-6d}{-6}$$

$$-4 = d$$

$$\checkmark 13 = -6(-4) - 11$$

$$13 = 24 - 11$$

$$13 = 13 \checkmark$$



$$\begin{array}{r}
 9) \quad -78 = -9k - 15 \\
 \quad + 15 \quad \quad + 15 \\
 \hline
 \quad -63 = -9k \\
 \quad -9 \quad \quad -9
 \end{array}$$

| | |
|---------|---------|
| $7 = k$ | $7 = t$ |
|---------|---------|

$$\begin{array}{l}
 \checkmark -78 = -9(7) - 15 \\
 -78 = -63 - 15 \\
 -78 = -78 \checkmark
 \end{array}$$



$$\begin{array}{r}
 10) \quad 29 = -55 + 12t \\
 \quad + 55 + 55 \\
 \hline
 \quad 84 = 12t \\
 \quad 12 \quad 12
 \end{array}$$

$$\begin{array}{l}
 \checkmark 29 = -55 + 12(7) \\
 29 = -55 + 84 \\
 29 = 29 \checkmark
 \end{array}$$



$$\begin{array}{r}
 11) \quad -81 - 4g^2 = 115 \\
 \quad + 81 \quad \quad + 81 \\
 \hline
 \quad -4g^2 = 196 \\
 \quad -4 \quad \quad -4
 \end{array}$$

$$g^2 = -49$$

$$\sqrt{g^2} = \sqrt{-49}$$

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| No Real Solution |
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