

## Geometry

Solve, check, and graph the following equations. Use the back of the worksheet for the last problems.

1)  $17 - \frac{t}{5} = 23$

$$\frac{-17}{5} \quad \frac{-17}{5}$$

$$(-5)\left(-\frac{t}{5}\right) = 6(-5)$$

$$t = -30$$

$$\checkmark 17 - \frac{(-30)}{5} = 23$$

$$17 + 6 = 23 \\ 23 = 23 \checkmark$$



2)  $7v^2 - 15 = 13$

$$\frac{+15}{7} \quad \frac{+15}{7}$$

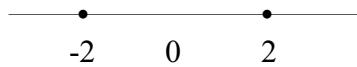
$$7v^2 = 28$$

$$\frac{7}{7} \quad \frac{7}{7} \\ \sqrt{v^2} = \sqrt{4}$$

$$v = \pm 2$$

$$\checkmark 7(2)^2 - 15 = 13$$

$$7(4) - 15 = 13 \\ 28 - 15 = 13 \\ 13 = 13 \checkmark$$



$$7(-2)^2 - 15 = 13$$

$$7(4) - 15 = 13 \\ 28 - 15 = 13 \\ 13 = 13 \checkmark$$

3)  $4d^3 + 47 = -61$

$$\frac{-47}{4} \quad \frac{-47}{4}$$

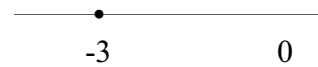
$$4d^3 = -108$$

$$\frac{4}{4} \quad \frac{4}{4} \\ \sqrt[3]{d^3} = \sqrt[3]{-27}$$

$$d = -3$$

$$\checkmark 4(-3)^3 + 47 = -61$$

$$4(-27) + 47 = -61 \\ -108 + 47 = -61 \\ -61 = -61 \checkmark$$



4)  $-51 = 20q - 3q$

$$\frac{-51}{17} = \frac{17q}{17}$$

$$-3 = q$$

$$\checkmark -51 = 20(-3) - 3(-3)$$

$$-51 = -60 + 9 \\ -51 = -51 \checkmark$$



5)  $19 = -9w + 8w$

$$\frac{19}{-1} = \frac{-w}{-1}$$

$$-19 = w$$

$$\checkmark 19 = -9(-19) + 8(-19)$$

$$19 = 171 - 152 \\ 19 = 19 \checkmark$$



6)  $27 = -7y + 4y$

$$\frac{27}{-3} = \frac{-3y}{-3}$$

$$-9 = y$$

$$\checkmark 27 = -7(-9) + 4(-9)$$

$$27 = 63 - 36 \\ 27 = 27 \checkmark$$



7)  $2d - 24 = 8d$

$$\frac{-2d}{6} \quad \frac{-2d}{6}$$

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

$$-4 = d$$

$$\checkmark 2(-4) - 24 = 8(-4)$$

$$-8 - 24 = -32 \\ -32 = -32 \checkmark$$



8)  $32 + z = 5z$

$$\frac{-z}{4} \quad \frac{-z}{4}$$

$$\frac{32}{4} = \frac{4z}{4}$$

$$8 = z$$

$$\checkmark 32 + (8) = 5(8)$$

$$40 = 40 \checkmark$$



9)  $7b - 18 = b$

$$\frac{-7b}{-6} \quad \frac{-7b}{-6}$$

$$\frac{-18}{-6} = \frac{-6b}{-6}$$

$$3 = b$$

$$\checkmark 7(3) - 18 = (3)$$

$$21 - 18 = 3 \\ 3 = 3 \checkmark$$



$$\begin{array}{r}
 10) \quad 12k - 2 = 9k + 4 \\
 \underline{-9k + 2 \quad -9k + 2} \\
 3k = 6 \\
 3 \quad 3
 \end{array}$$

$$\begin{array}{r}
 11) \quad 11 + 5a = 3a + 41 \\
 \underline{-11 \quad -3a \quad -3a \quad -11} \\
 2a = 30 \\
 2 \quad 2
 \end{array}$$

$$k = 2$$

$$a = 15$$

$$\begin{array}{l}
 \checkmark \quad 12(2) - 2 = 9(2) + 4 \\
 24 - 2 = 18 + 4 \\
 22 = 22 \checkmark
 \end{array}$$

$$\begin{array}{l}
 \checkmark \quad 11 + 5(15) = 3(15) + 41 \\
 11 + 75 = 45 + 41 \\
 86 = 86 \checkmark
 \end{array}$$



$$\begin{array}{r}
 12) \quad 41 = 9c + 10 - 2c + 17 \\
 41 = 7c + 27 \\
 \underline{-27 \quad \quad -27} \\
 14 = 7c \\
 7 \quad 7
 \end{array}$$

$$\begin{array}{r}
 13) \quad -97 = -15 - 11j + 3j - 18 \\
 -97 = -8j - 33 \\
 \underline{+ 33 \quad \quad + 33} \\
 -64 = -8j \\
 -8 \quad -8
 \end{array}$$

$$2 = c$$

$$8 = j$$

$$\begin{array}{l}
 \checkmark \quad 41 = 9(2) + 10 - 2(2) + 17 \\
 41 = 18 + 10 - 4 + 17 \\
 41 = 41 \checkmark
 \end{array}$$

$$\begin{array}{l}
 \checkmark \quad -97 = -15 - 11(8) + 3(8) - 18 \\
 -97 = -15 - 88 + 24 - 18 \\
 -97 = -97 \checkmark
 \end{array}$$

