

Solving Math 9 Equations Part 5

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Mathematics 9 Equation Solving Solving Math 9 Equations Part 5

Over the past few days we have been looking at solving multi-step equations. Today we will be looking at solving another type of multi-step equation.

Solve and check the following equations.

A. Equation Type #6 (Multi-Step)

$$1) \ 3(x - 4) = -18$$

$$\cancel{3x} - \cancel{12} = -18$$

$$\frac{3x}{3} = -\frac{6}{3}$$

$$\boxed{x = -2}$$

Check

$$3(x - 4) = -18$$

$$3((-2) - 4) = -18$$

$$3(-6) = -18$$

$$-18 = -18 \checkmark$$

$$2) \ 4(y + 1) = 2(11 - y)$$

$$\cancel{4y} + 4 = 22 - \cancel{2y}$$

$$6y + 4 = 22$$

$$\frac{6y}{6} = \frac{18}{6}$$

$$\boxed{y = 3}$$

Check

$$4(y + 1) = 2(11 - y)$$

$$4((3) + 1) = 2(11 - (3))$$

$$4(4) = 2(8)$$

$$16 = 16 \checkmark$$

$$\begin{aligned}
 3) \quad & 3m + 2(m+5) = -9 - 2(m+1) \\
 & \cancel{3m} + \cancel{2m} + 10 = \cancel{-9} - 2m \cancel{-2} \\
 & 5m + 10 = -2m - 11 \\
 & +2m \qquad \qquad \qquad \cancel{+2m} \\
 & 7m + 10 = -11 \\
 & \underline{7m} \qquad \qquad \qquad \underline{-10} \\
 & m = -\frac{21}{7} \\
 & \boxed{m = -3}
 \end{aligned}$$

Check

$$\begin{aligned}
 & 3m + 2(m+5) = -9 - 2(m+1) \\
 & 3(-3) + 2((-3)+5) = -9 - 2(-3) + 1 \\
 & 3(-3) + 2(2) = -9 - 2(-2) \\
 & -9 + 4 = -9 + 4 \\
 & -5 = -5 \checkmark
 \end{aligned}$$

Name: _____

Solving Math 9 Equations Part 5 Assignment

Solve and check the following equations.

1. $10 = 2(x + 3)$	<u>Check</u>
2. $\frac{3}{4}m - 6 = -3$	<u>Check</u>
3. $\frac{2}{3}y = -\frac{1}{6}$	<u>Check</u>

$$4. \quad 3(m+1) = 2(m-1)$$

Check

$$5. \quad -7 + 5y = 1 + 3y$$

Check

$$6. \quad 5 + 2(n+4) = 3 - (n-1)$$

Check

7. $3m + \frac{1}{2} = \frac{5}{4}$	<u>Check</u>
8. $2(y - 4) = 3(y - 6)$	<u>Check</u>
9. $\frac{1}{3}n + \frac{1}{6} = \frac{1}{4}$	<u>Check</u>

$$10. -6 + 4m - 2 = 1 + 6m + 1$$

Check

$$11. \frac{1}{2} - y = -\frac{1}{6}$$

Check

$$12. \frac{1}{2}n + 3 = \frac{1}{3}n + 1$$

Check

13. $3 = 8 - (m + 1)$	<u>Check</u>
14. $\frac{3}{4}x - 2 = -8$	<u>Check</u>
15. $5a + 3(a + 5) + 2 = 2(a + 5) + 1$	<u>Check</u>

Answers

1) $x = 2$ 2) $m = 4$

3) $y = -\frac{1}{4}$ 4) $m = -5$

5) $y = 4$ 6) $n = -3$

7) $m = \frac{1}{4}$ 8) $y = 10$

9) $n = \frac{1}{4}$ 10) $m = -5$

11) $y = \frac{2}{3}$ 12) $n = -12$

13) $m = 4$ 14) $x = -8$

15) $a = -1$