Solving Math 9 Equations Part 4

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11:35 AM

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 #5 (Multi-Step)

1) $4x + 3 + 2x = 2x + 5 + 3x$

$$6x + 3 = 5x + 5$$
$$-5x \qquad -5x$$

$$x + 3 = 5$$
$$\quad -3 \quad -3$$

$$\boxed{x = 2}$$

Check

$$4x + 3 + 2x = 2x + 5 + 3x$$
$$4(2) + 3 + 2(2) = 2(2) + 5 + 3(2)$$
$$8 + 3 + 4 = 4 + 5 + 6$$
$$15 = 15 \checkmark$$

2) $5n - 3 - 2n = 3 + 7n - 2$

$$3n - 3 = 7n + 1$$
$$-7n \qquad -7n$$

$$-4n - 3 = 1$$
$$\qquad +3 \quad +3$$

$$\frac{-4n}{-4} = \frac{4}{-4}$$

$$\boxed{n = -1}$$

Check

$$5n - 3 - 2n = 3 + 7n - 2$$
$$5(-1) - 3 - 2(-1) = 3 + 7(-1) - 2$$
$$-5 - 3 + 2 = 3 - 7 - 2$$
$$-6 = -6 \checkmark$$

3) $6y + 4 - 2y = y - 5$

$$4y + 4 = y - 5$$
$$-y \qquad -y$$

$$3y + 4 = -5$$
$$-4 \quad -4$$

$$\frac{3y}{3} = -\frac{9}{3}$$

$$\boxed{y = -3}$$

Check

$$6y + 4 - 2y = y - 5$$
$$6(-3) + 4 - 2(-3) = (-3) - 5$$
$$-18 + 4 + 6 = -8$$
$$-8 = -8 \checkmark$$

Assignment: Solving Math 9 Equations Part 4 Assignment

Solving Math 9 Equations Part 4 Assignment

Solve and check the following equations.

1. $3x + 5 = 5x + 11$	Check
2. $\dfrac{1}{2} = \dfrac{3}{4} + \dfrac{1}{2}m$	Check
3. $19 - 3y = 1$	Check

4. $4m - 6 + 2m = 3m - 7 + 2m$	Check
5. $3y + 1 = 5y - 7$	Check
6. $4n - 5 = n + 1 + n - 10$	Check

7. $\dfrac{1}{4}m - 6 = \dfrac{1}{2}m - 8$

Check

8. $6 + y - 3 = 8 - y + 3$

Check

9. $-\dfrac{1}{4} + \dfrac{1}{3}n + \dfrac{1}{6} = 0$

Check

10. $4m - 8 = 6m + 2$	Check
11. $\dfrac{1}{2} - y = -\dfrac{1}{6}$	Check
12. $\dfrac{1}{3}n + 1 = \dfrac{1}{2}n + 3$	Check

13. $-2 = -8 - 3m$

Check

14. $\dfrac{1}{2}x - 2 = \dfrac{-13}{8}$

Check

15. $5a + 2 - 3a - 1 = 6a + 5 - 2a - 2$

Check

Answers

1) $x = -3$ 2) $m = -\dfrac{1}{2}$

3) $y = 6$ 4) $m = -1$

5) $y = 4$ 6) $n = -2$

7) $m = 8$ 8) $y = 4$

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

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

13) $m = -2$ 14) $x = \dfrac{3}{4}$

15) $a = -1$