

# Solving Math 8 Equations Part 2

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Mathematics 9  
Equation Solving  
Solving Math 8 Equations Part 2

Last class we looked at solving one step equations. Today we will look at solving two-step equations.

### Things to Remember

1. Isolate the variable by doing the opposite what the question suggest.
2. Whatever you do to one side of the equation, you must do the same to the other side.
3. Algebra Rules are opposite of BEDMAS Rules. Add & Subtract first, Divide last.
4. Always do a check to make sure your answer is correct.

Solve and check the following equations.

#### A. Equation Type #1 (One Step)

1)  $x - 4 = -7$   
 $\downarrow -4$     $\uparrow +4$

$$x = -3$$

Check

$$\begin{aligned}x - 4 &= -7 \\ (-3) - 4 &= -7 \\ -7 &= -7 \checkmark\end{aligned}$$

2)  $12 = -8 + y$   
 $\uparrow +8$     $\downarrow -8$

$$\begin{aligned}20 &= y \\ \text{or} \\ y &= 20\end{aligned}$$

Check

$$\begin{aligned}12 &= -8 + y \\ 12 &= -8 + (20) \\ 12 &= 12 \checkmark\end{aligned}$$

#### B. Equation Type #2 (One Step)

1)  $\frac{4}{4}a = \frac{-32}{4}$

$$a = -8$$

Check

$$\begin{aligned}4a &= -32 \\ 4(-8) &= -32 \\ -32 &= -32 \checkmark\end{aligned}$$

$$2) \frac{24}{-3} = \frac{-3n}{-3}$$

$$\boxed{-8 = n}$$

or

$$\boxed{n = -8}$$

Check

$$24 = -3n$$

$$24 = -3(-8)$$

$$24 = 24 \checkmark$$

C. Equation Type #3 (Two-Step)

$$1) 2m + 6 = 14$$

$$\frac{2m}{2} = \frac{8}{2}$$

$$\boxed{m = 4}$$

Check

$$2m + 6 = 14$$

$$2(4) + 6 = 14$$

$$8 + 6$$

$$14 = 14 \checkmark$$

*\* Use BEDMAS Rules.*

$$2) -8 - 3x = -2$$

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

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

Check

$$-8 - 3x = -2$$

$$-8 - 3(-2) = -2$$

$$-8 + 6 = -2$$

$$-2 = -2 \checkmark$$

$$* 3) -21 = -m - 9$$

$$\frac{-12}{-1} = \frac{-m}{-1}$$

$$\boxed{12 = m}$$

or

$$\boxed{m = 12}$$

Check

$$-21 = -m - 9$$

$$-21 = -(12) - 9$$

$$-21 = -12 - 9$$

$$-21 = -21 \checkmark$$

Assignment: Solving Math 8 Equations Part 2 Assignment

Name: \_\_\_\_\_

**Solving Math 8 Equations Part 2 Assignment**

Solve and check the following equations.

1. $x + 3 = 11$	<u>Check</u>
2. $-4y = 20$	<u>Check</u>
3. $4y - 9 = 15$	<u>Check</u>
4. $12 - x = 7$	<u>Check</u>

5. $24 = 2m$	<u>Check</u>
6. $23 - a = 13$	<u>Check</u>
7. $6 + 10n = 56$	<u>Check</u>
8. $x - 4 = -7$	<u>Check</u>

9. $-49 = 6m - 1$	<u>Check</u>
10. $5a + 3 = -27$	<u>Check</u>
11. $4 - 3n = 43$	<u>Check</u>
12. $-4x + 2 = 18$	<u>Check</u>

13. $-8a = -32$	<u>Check</u>
14. $24 = 9 + x$	<u>Check</u>
15. $-4m - 9 = 19$	<u>Check</u>
16. $100 = 25n + 50$	<u>Check</u>

17. $20 - x = 8$	<u>Check</u>
18. $17 = -x + 4$	<u>Check</u>
19. $-8 = 32 - 4m$	<u>Check</u>
20. $-9a - 3 = -39$	<u>Check</u>

Answers

1)  $x = 8$

2)  $y = -5$

3)  $y = 6$

4)  $x = 5$

5)  $m = 12$

6)  $a = 10$

7)  $n = 5$

8)  $x = -3$

9)  $m = -8$

10)  $a = -6$

11)  $n = -13$

12)  $x = -4$

13)  $a = 4$

14)  $x = 15$

15)  $m = -7$

16)  $n = 2$

17)  $x = 12$

18)  $x = -13$

19)  $m = 10$

20)  $a = 4$