

An Introduction to Equations Bell Work

Tell whether each equation is true, false, or open. Explain.

1. $-2 - 5 = -(1 + 6)$ 2. $8 - 10 - 2 = 5 + 6 - 16$ 3. $8x + 3 = 5x - 9$

Tell whether the given number is a solution of each equation.

4. $8x - 3 = 13$ when $x = 2$ 5. $-x = 15 - 6x$ when $x = 3$ 6. $25 - 5x = -5$ when $x = 6$

Use a table to find the solution of each equation.

7. $-2 = 3x - 8$ 8. $5x - 12 = 13$ 9. $8x - 24 = -16$

Use a table to find two consecutive integers between which the solution lies.

10. $16 = 3 - 2x$ 11. $2 = 3x + 9$ 12. $-4x + 10 = 43$

Write an equation for each sentence.

13. The difference of a number x and seventeen is twenty one.
14. Nine times a number x plus three is equal to fifteen.
15. The product of seven and three is twelve times a number x .

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ANSWER

Tell whether each equation is true, false, or open. Explain.

1. $-2 - 5 = -(1 + 6)$

$$\begin{aligned} -7 &= -(7) \\ \text{TRUE} \end{aligned}$$

2. $8 - 10 - 2 = 5 + 6 - 16$

$$\begin{aligned} -4 &\neq -5 \\ \text{FALSE} \end{aligned}$$

3. $8x + 3 = 5x - 9$

$$\begin{aligned} \text{variable } x \\ \text{OPEN} \end{aligned}$$

Tell whether the given number is a solution of each equation.

4. $8x - 3 = 13$ when $x = 2$

$$\begin{aligned} 8(2) - 3 &= 13 \\ 16 - 3 &= 13 \\ \text{13} &= \text{13} \end{aligned}$$

5. $-x = 15 - 6x$ when $x = 3$

$$\begin{aligned} -3 &= 15 - 6(3) \\ -3 &= 15 - 18 \\ \text{-3} &= \text{-3} \end{aligned}$$

6. $25 - 5x = -5$ when $x = 6$

$$\begin{aligned} 25 - 5(6) &= -5 \\ 25 - 30 &= -5 \\ \text{-5} &= \text{-5} \end{aligned}$$

Use a table to find the solution of each equation.

7. $-2 = 3x - 8$

x	$= 3x - 8$
0	$= 3(0) - 8$ $= 0 - 8$ $= -8$
1	$= 3(1) - 8$ $= 3 - 8$ $= -5$
2	$= 3(2) - 8$ $= 6 - 8$ $= -2$

$x = -2$

8. $5x - 12 = 13$

x	$= 5x - 12$
4	$= 5(4) - 12$ $= 20 - 12$ $= 8$
5	$= 5(5) - 12$ $= 25 - 12$ $= 13$
6	$= 5(6) - 12$ $= 30 - 12$ $= 18$

$x = 5$

9. $8x - 24 = -16$

x	$= 8x - 24$
0	$= 8(0) - 24$ $= 0 - 24$ $= -24$
1	$= 8(1) - 24$ $= 8 - 24$ $= -16$
2	$= 8(2) - 24$ $= 16 - 24$ $= -8$

$x = 1$

Use a table to find two consecutive integers between which the solution lies.

10. $16 = 3 - 2x$

x	$= 3 - 2x$
-5	$= 3 - 2(-5)$ $= 3 + 10$ $= 13$
-6	$= 3 - 2(-6)$ $= 3 + 12$ $= 15$
-7	$= 3 - 2(-7)$ $= 3 + 14$ $= 17$
-8	$= 3 - 2(-8)$ $= 3 + 16$ $= 19$

$-7 < x < -6$

11. $2 = 3x + 9$

x	$= 3x + 9$
-1	$= 3(-1) + 9$ $= -3 + 9$ $= 6$
-2	$= 3(-2) + 9$ $= -6 + 9$ $= 3$
-3	$= 3(-3) + 9$ $= -9 + 9$ $= 0$
-4	$= 3(-4) + 9$ $= -12 + 9$ $= -3$

$-3 < x < -2$

12. $-4x + 10 = 43$

x	$= -4x + 10$
-7	$= -4(-7) + 10$ $= 28 + 10$ $= 38$
-8	$= -4(-8) + 10$ $= 32 + 10$ $= 42$
-9	$= -4(-9) + 10$ $= 36 + 10$ $= 46$
-10	$= -4(-10) + 10$ $= 40 + 10$ $= 50$

$-9 < x < -8$

Name: _____ Period: _____ Date: _____

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Write an equation for each sentence.

13. The difference of a number x and seventeen is twenty one.

$$x - 17 = 21$$

14. Nine times a number x plus three is equal to fifteen.

$$9x + 3 = 15$$

15. The product of seven and three is twelve times a number x .

$$7(3) = 12x$$