

Notes (7+) - One Step Equations.notebook

Important Rules for Solving Equations

- When you solve an equation, your goal is to get the _____ alone by itself on one side of the equation. In other words, you are trying to _____ the variable.

- When you are solving for a variable, you MUST use inverse _____.

- Draw a line to separate both sides of the equation.

Important Rules for Solving Equations (Continued)

- Whatever you do to _____ of an equation, you must do to the _____ side of the equation. In other words, you must keep the equation _____.

Think of solving an equation like lifting weights

- If you add or subtract weight from one side of the barbell, you must _____ or _____ weight from the other side to keep it balanced!



Solve: $r + 16 = -7$

- To solve, you must isolate the variable.

- What number is on the same side as r ?

- To get r by itself, we must undo the addition. What is the opposite of addition?

1. Draw a line to separate the equation into 2 sides.

2. _____ from both sides.

3. Check your answer by substituting your answer back into the problem.

$$r + 16 = -7$$

$$x + 2 = -3$$

1. Draw a line to separate the equation into 2 sides.

2. _____ from both sides.

3. Check your answer by substituting your answer back into the problem.

Solve: $y + (-3) = -8$

Check Your Answer:

Solve: $-11 = t + (-2)$

Solve: $x - (-2) = 1$

Check Your Answer:

Solve: $-22 = c - 12$

Solve: $3.4 + x = -9.08$

Check Your Answer:

Solve: $x - (-2.98) = -11.5$

Check Your Answer:

Notes (7+) - One Step Equations.notebook

Solve: $x + \left(-\frac{1}{4}\right) = \frac{5}{6}$

Solve: $x - \left(-\frac{2}{3}\right) = -\frac{5}{6}$

Check Your Answer:

Check Your Answer:

Solve: $-2p = 6$

- To solve, you must isolate the variable.

- What number is on the same side as **p**?

- To get **p** by itself, we must undo the multiplication. What is the opposite of multiplication?

$$-2p = 6$$

1. Draw a line to separate the equation into 2 sides.

2. _____ by _____ on both sides.

3. Check your answer by substituting your answer back into the problem.

$$\frac{z}{-2} = 14$$

1. Draw a line to separate the equation into 2 sides.

2. _____ by _____ on both sides.

3. Check your answer by substituting your answer back into the problem.

Solve: $-16 = -4b$

Solve: $\frac{x}{6} = -29$

Check Your Answer:

Check Your Answer:

Solve: $-x = -4$

Solve: $-g = 16$

Solve: $-\frac{3}{4}x = \frac{5}{8}$

Solve: $-\frac{4}{7}x = -\frac{2}{3}$

Check Your Answer:

Check Your Answer:

Solve: $\frac{x}{10} = -1.41$

Solve: $-24.99 = 2.1m$

Check Your Answer:

Check Your Answer:

Hint: Dividing by a fraction is the same as multiplying by the

Notes (7+) - One Step Equations.notebook

Equations with Square and Cube Roots

-Isolate the variable by performing the inverse operation

x^2 and \sqrt{x} are inverse operations.

x^3 and $\sqrt[3]{x}$ are inverse operations.

Cube Roots

$$1^3 = 1$$

$$2^3 = 8$$

$$3^3 = 27$$

$$4^3 = 64$$

$$5^3 = 125$$

$$\sqrt[3]{1} = 1$$

$$\sqrt[3]{8} = 2$$

$$\sqrt[3]{27} = 3$$

$$\sqrt[3]{64} = 4$$

$$\sqrt[3]{125} = 5$$

Example 1

$$\sqrt{x} = 15$$

-Eliminate the square root by _____ both sides

Example 3

$$x^2 = 64$$

-Eliminate the exponent by taking the _____ on both sides

Example 5

$$x^3 = 64$$

Example 2

$$\sqrt[3]{x} = 8$$

-Eliminate the cube root by _____ both sides

Example 4

$$x^3 = 8$$

-Eliminate the exponent by taking the _____ on both sides

Example 6

$$x^2 = 4$$

Can you find the square root or cube root of a negative number? Why or why not?