1 1-Step Algebra

October 20, 2020 7:55 PM

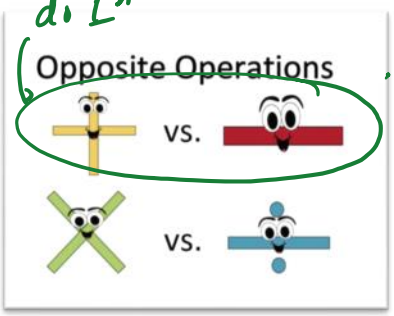
Math 9 Ch 6
Level 1: 1-Step Algebra

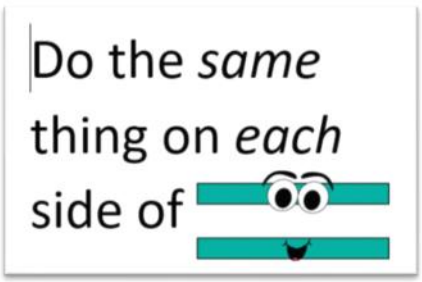
Name: _____

Algebra Rules!

1. Your goal is to get x alone on 1 side of "="
2. Whatever you do to 1 side of the "=" sign, you do same operation on the OTHER side of "=".
3. Always do +, − before ×, ÷.

do LAST!

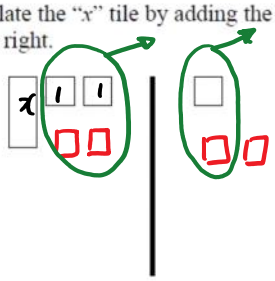




Addition/Subtraction One-Step Equations With Algebra Tiles

Isolate the "x" tile by adding the necessary tiles to each side. Show the algebraic steps in the space on the right.

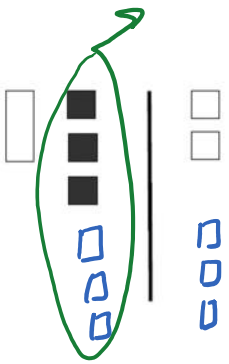
1.



1.

$$x + 2 = 1$$
$$-2 \quad -2$$
$$x = -1$$

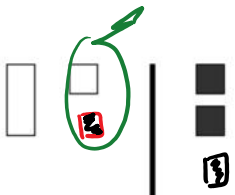
2.



2.

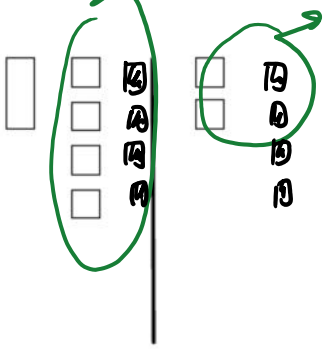
$$x + -3 = 2$$
$$+3 \quad +3$$
$$x = 5$$

3.



3. $x + 1 = -2$
$-1 \quad -1$
$x = -3$

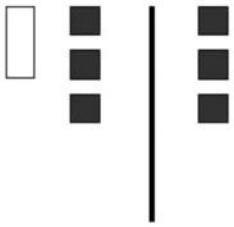
4.



4. $x + 4 = 2$
$-4 \quad -4$
$x = -2$

$x + 4 - 4 = 2 - 4$
$x = 2$

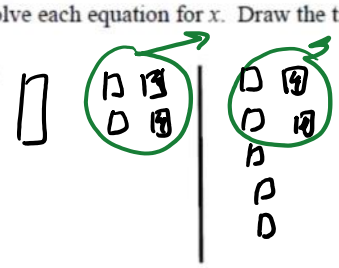
5.



5. $x - 3 = -3$
$+3 \quad +3$
$x = 0$

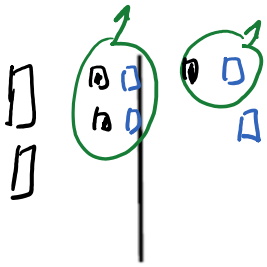
Solve each equation for x. Draw the tiles necessary to verify your steps.

6.



6. $x + 2 = 5$
$-2 \quad -2$
$x = 3$

7.



7. $x + (-2) = -1$

$+2 \quad +2$

$x = 1$ ✓

8. $x + 4 = -2$

$-4 \quad -4$

$x = -6$ ✓

9. $x + (-3) = -4$

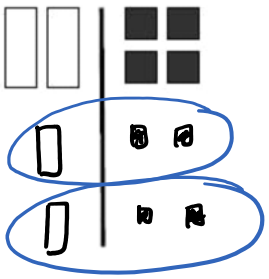
$+3 \quad +3$

$x = -1$ ✓

Multiplication/Division One-Step Equations With Algebra Tiles

Isolate the "x" tile in each problem. Show the algebraic steps in the space on the right.

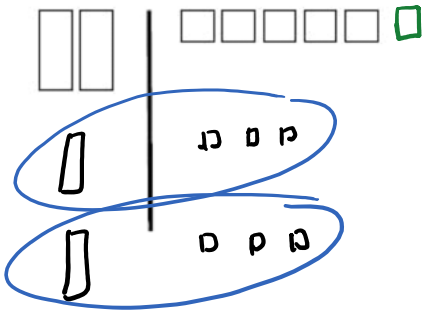
1.



1. $\frac{2x}{2} = \frac{-4}{2}$

$x = -2$

2.



2. $\frac{2x}{2} = \frac{6}{2}$

$x = 3$

3. $2x = 10$

$\frac{2}{2}$ $\frac{2}{2}$

$x = 5$

4. $-3x = -9$

$\frac{-3}{-3}$ $\frac{-3}{-3}$

$x = 3$

opposite of divide is multiply!

5. $\frac{x}{7} = 2$ (9) multiply!

$x = 14$

6. $\frac{1}{8}x = 2$

QQ

$\frac{8}{1}\cdot\frac{1}{8}x = 2(8)$

$x = 16$

7. $\frac{1}{3}x = -8$

$\frac{3}{1}\cdot\frac{x}{3} = -8(3)$

$x = -24$

8. $-3x = 21$

$\frac{-3}{-3}$ $\frac{-3}{-3}$

$x = -7$

9. $-1x = 13$

$\frac{-1}{-1}$ $\frac{-1}{-1}$

$x = -13$

10. $-5x = -45$

$\frac{-5}{-5}$ $\frac{-5}{-5}$

$x = 9$

11. $-6x = -3$

$\frac{-6}{-6}$ $\frac{-6}{-6}$

$x = \frac{1}{2}$

12. $4x + 2x = 12$

$6x = 12$

$\frac{6}{6}$ $\frac{12}{6}$

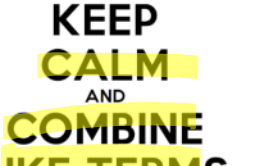
$x = 2$

$-4x + 2x = 12$

$-2x = 12$

$\frac{-2}{-2}$ $\frac{12}{-2}$

$x = -6$



13.) $\frac{5}{2}\cdot\frac{2}{5}x = -3\cdot\frac{5}{2}$

QQ

$x = -\frac{15}{2}$

14) $\frac{4}{3}\cdot\frac{3}{4}x = 2\cdot\frac{4}{3}$

$x = \frac{8}{3}$

$x = 2\frac{2}{3}$