

1 1-Step Algebra

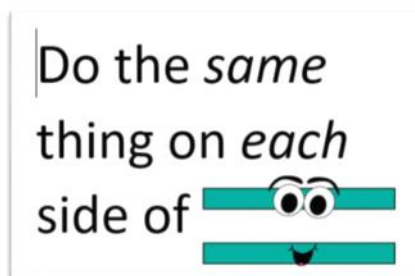
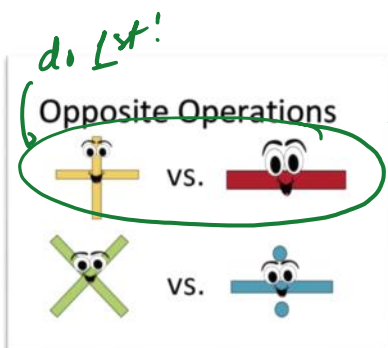
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Math 9 Ch 6 Level 1: 1-Step Algebra

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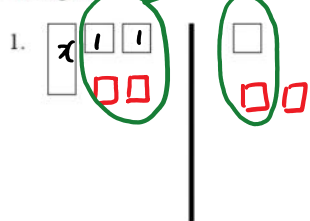
Algebra Rules!

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 \times, \div .



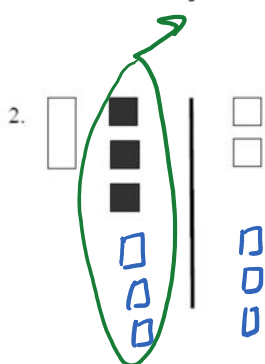
Addition/Subtraction One-Step Equations With Algebra Tiles

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



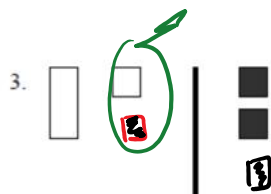
1.

$$\begin{array}{r} x + 2 = 1 \\ \quad -2 \quad -2 \\ \hline x = -1 \end{array}$$

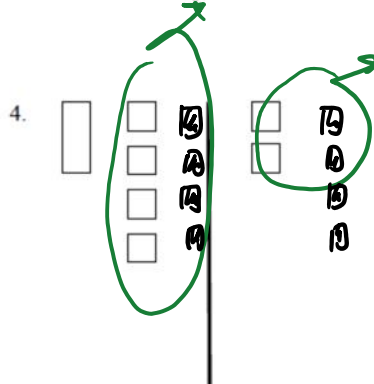


2.

$$\begin{array}{r} x + -3 = 2 \\ \quad +3 \quad +3 \\ \hline x = 5 \end{array}$$



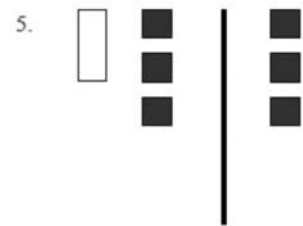
3.
$$\begin{array}{r} x + 1 = -2 \\ -1 \quad -1 \\ \hline x = -3 \end{array}$$



4.
$$\begin{array}{r} x + 4 = 2 \\ -4 \quad -4 \\ \hline x = -2 \end{array}$$

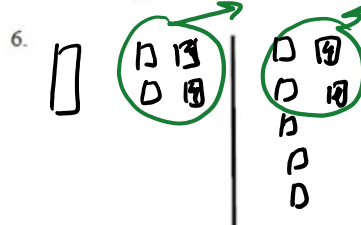
$$x + 4 - 4 = 2 - 4$$

$$x = -2$$



5.
$$\begin{array}{r} x - 3 = -3 \\ +3 \quad +3 \\ \hline x = 0 \end{array}$$

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



6.
$$\begin{array}{r} x + 2 = 5 \\ -2 \quad -2 \\ \hline x = 3 \end{array}$$

7.

7.

$$\begin{array}{r} x + (-2) = -1 \\ +2 \quad +2 \\ \hline x = 1 \quad \checkmark \end{array}$$

8.

$$\begin{array}{r} x + 4 = -2 \\ -4 \quad -4 \\ \hline x = -6 \quad \checkmark \end{array}$$

9.

$$\begin{array}{r} x + (-3) = -4 \\ +3 \quad +3 \\ \hline x = -1 \quad \checkmark \end{array}$$

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.

$$\begin{array}{r} 2x = -4 \\ \frac{2x}{2} = \frac{-4}{2} \\ x = -2 \end{array}$$

2.

2.

$$\begin{array}{r} 2x = 6 \\ \frac{2x}{2} = \frac{6}{2} \\ x = 3 \end{array}$$

3.

$$\begin{array}{r} 2x = 10 \\ \underline{2} \quad \underline{2} \\ x = 5 \end{array}$$

opposite of
divide is multiply!

5. $(7)x = 2(7)$ multiply!

$$x = 14$$

4.

$$\begin{array}{r} 3x = -9 \\ \underline{3} \quad \underline{3} \\ x = -3 \end{array}$$

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

00 $(8) \frac{1}{8}x = 2(8)$

$$x = 16$$



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

$(3)x = -8(3)$

$$x = -24$$

8. $3x = 21$

$$\begin{array}{r} 3x = 21 \\ \underline{-3} \quad \underline{-3} \\ x = 7 \end{array}$$

9. $-x = 13$

$$\begin{array}{r} -x = 13 \\ \underline{-1} \quad \underline{-1} \\ x = -13 \end{array}$$

10. $-5x = -45$

$$\begin{array}{r} -5x = -45 \\ \underline{-5} \quad \underline{-5} \\ x = 9 \end{array}$$

11. $-6x = -3$

$$\begin{array}{r} -6x = -3 \\ \underline{-6} \quad \underline{-6} \\ x = \frac{1}{2} \end{array}$$

12. $4x + 2x = 12$

$$\begin{array}{r} 4x + 2x = 12 \\ \underline{2x} \quad \underline{2x} \\ 6x = 12 \\ \underline{6} \quad \underline{6} \\ x = 2 \end{array}$$

$$-4x + 2x = 12$$

$$\begin{array}{r} -2x = 12 \\ \underline{-2} \quad \underline{-2} \\ x = -6 \end{array}$$

$$x = -6$$

KEEP
CALM
AND

COMBINE
LIKE TERMS

13. $(5) \frac{2}{5}x = 2(\frac{4}{5})$

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

14. $(\frac{1}{3}) \frac{3}{4}x = 2(\frac{4}{3})$

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

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