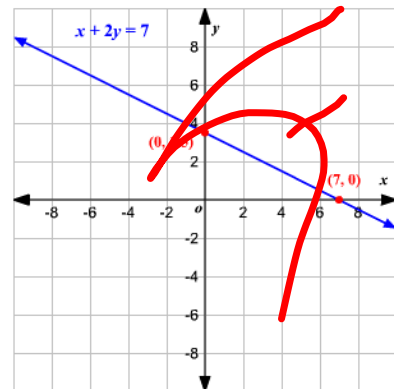
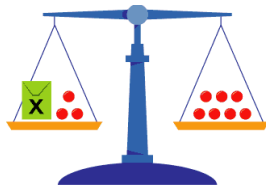
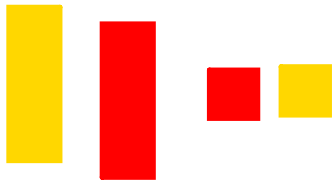


MATH
is
FUN!

Unit 6

$$3x + 7 = 19$$





Linear Equations and Graphing



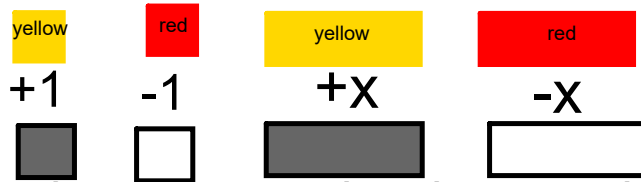
Section 6.1

Solving Equations using Algebra Tiles

Remember:

 +1	 +X shaded any positive variable (x, n, \dots)
 -1	 UNshaded any negative variable ($-x, -n, \dots$) -X

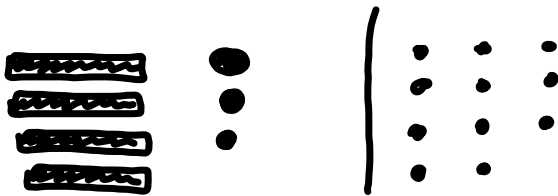
Also remember that a positive and a negative together gives 0.



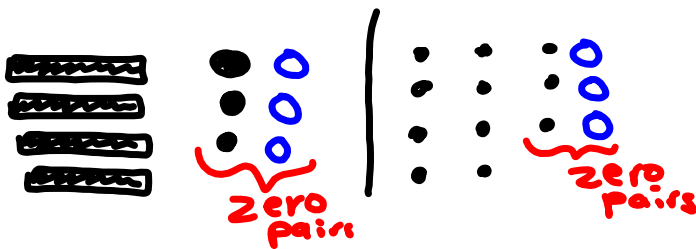
positive \rightarrow shade
negative \rightarrow unshaded

Use algebra tiles to solve the equations. Verify the solutions.

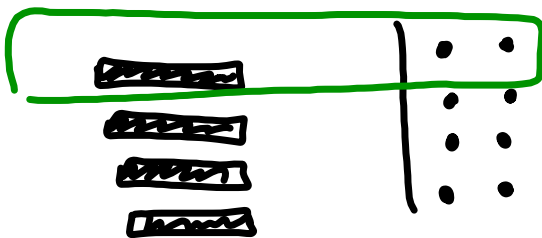
1. $4x + 3 = 11$



$$4x + 3 = 11$$



$$4x + 3 - 3 = 11 - 3$$



$$4x = 8$$

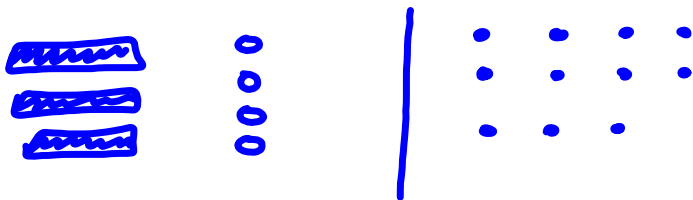
$$\frac{\div}{4} \quad \frac{\div}{4}$$

$$x = 2$$

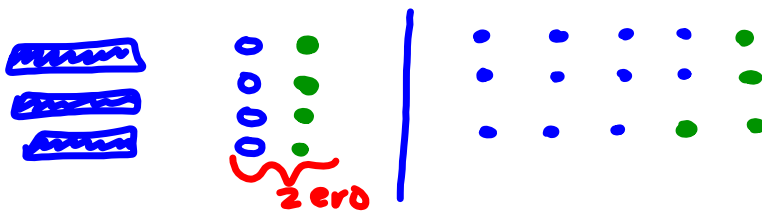


Ex 1b) Solve with models

$$3x - 4 = 11$$



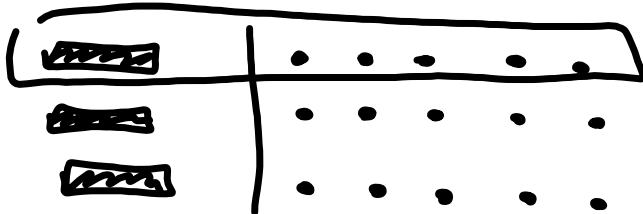
$$3x - 4 = 11$$



$$3x - 4 + 4 = 11 + 4$$

$$3x = 15$$

$$\div 3 \quad \div 3$$

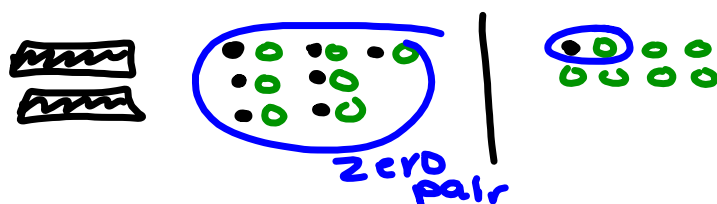


$$x = 5$$

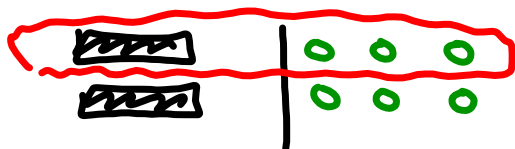


Ex 1c)

$$2x + 7 = 1$$



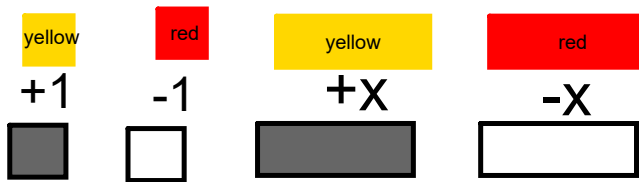
$$2x + 7 - 7 = 1 - 7$$



$$2x = -6$$

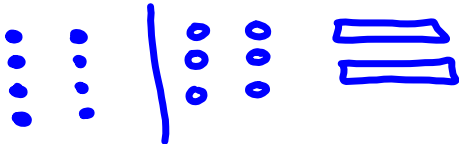
$$\div 2 \quad \div 2$$

$$x = -3$$



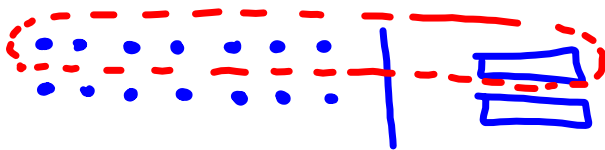
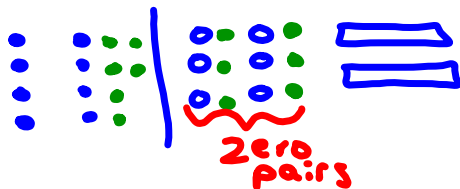
Use algebra tiles to solve the equations. Verify the solutions.

2. $8 = -6 - 2x$



$$8 = -6 - 2x$$

$$8^{+6} = -6^{+6} - 2x$$



$$14 = -2x$$



$$7 = -x$$

$$x = -7$$

How to show(+)



$$7^{+x} = -x + x$$



$$x + 7 = 0$$



~~$$x + 7 = 0$$~~

$$x = -7$$

$$\begin{array}{l} -3x = 21 \\ \div -3 \quad \div -3 \\ x = -7 \end{array}$$

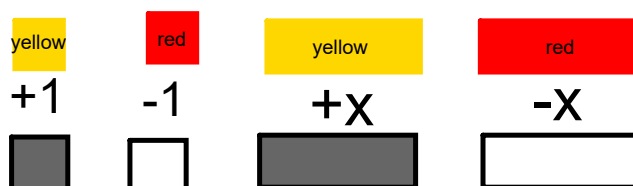
$$\begin{array}{l} -2x = -10 \\ \div -2 \quad \div -2 \\ x = +5 \end{array}$$

$$\begin{array}{l} -5x = 45 \\ \div -5 \quad \div -5 \\ \boxed{x = -9} \end{array}$$

$$\begin{array}{l} -1x = 32 \\ \div -1 \quad \div -1 \\ x = -32 \end{array}$$

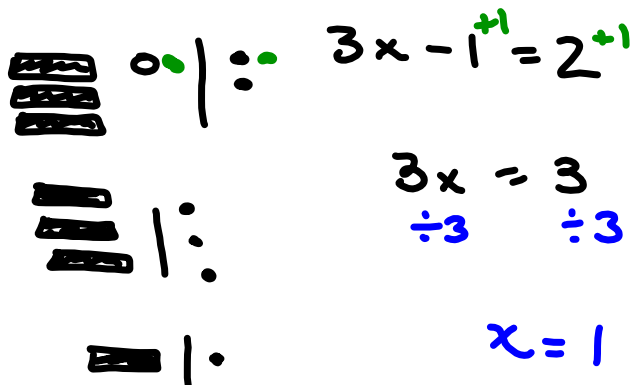
$$\frac{+14}{\div 2} = \frac{-2x}{\div 2}$$

$$\boxed{-7 = x}$$

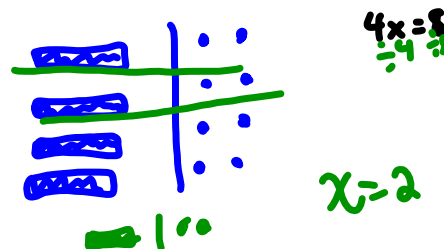
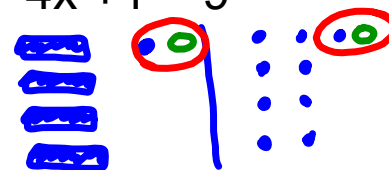


Use algebra tiles to solve the equations. Verify the solutions.

3. $3x - 1 = 2$



4. $4x + 1 = 9$





Jodee is a contestant in the spell-a-thon at her school.
 A contestant receives 3 points for every word spelled correctly.
 Because of a technical penalty, Jodee loses 5 points.
 She now has 19 points.
 How many words has Jodee spelled correctly?



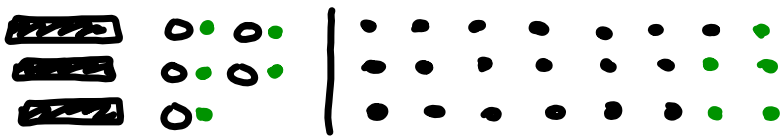
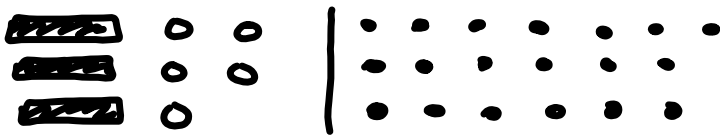
Use tiles

$$3x - 5 = 19$$

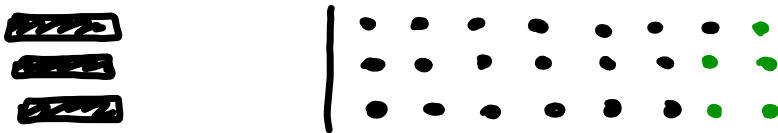
+ shaded
 - unshaded

of in front letters

Key words
 for each
 for every
 per
 repeated

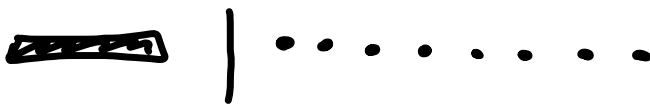


$$3x - 5 + 5 = 19 + 5$$



$$3x = 24$$

$$\div 3 \quad \div 3$$



$$x = 8$$

Jodee spelled 8 word correctly.