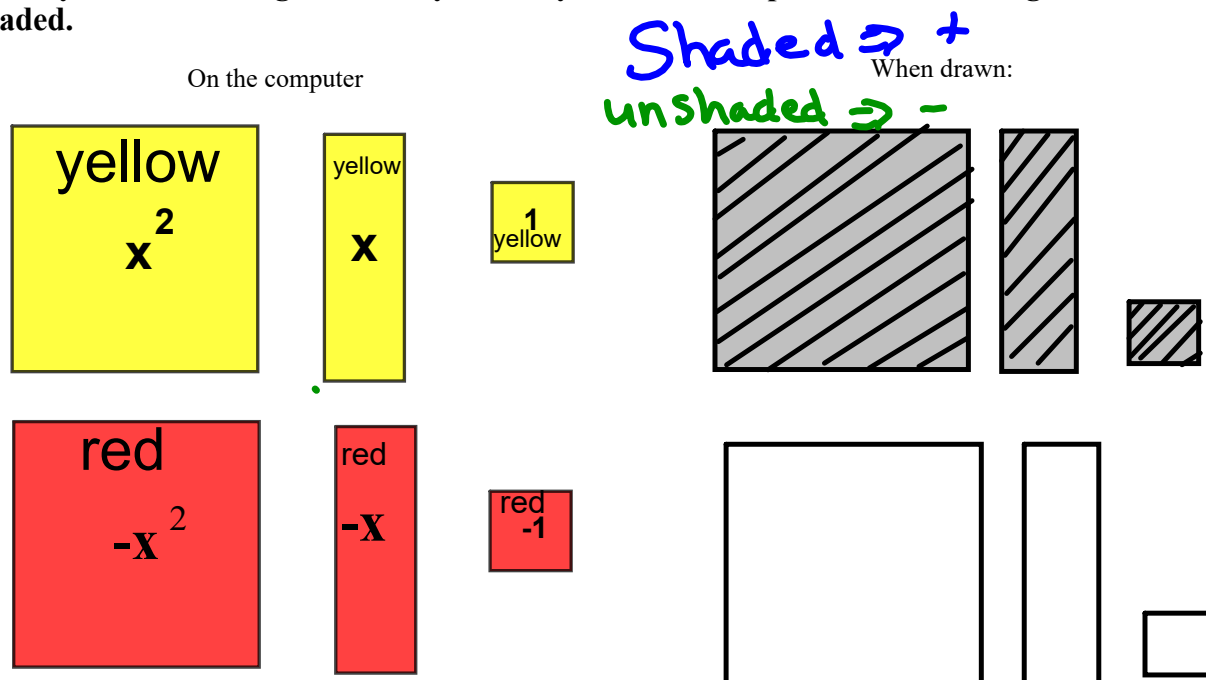


Solving Equations

Solving equations is when you find the value for the variable. One way to solve equations is by modeling.

Algebra tiles can also be used to help you solve equations.

When you draw the algebra tiles, you always shade in the positive and the negatives are not shaded.



Write an equation for each model

a)

$3x + 2 = 1$

b)

$-x + 3 = -2$

c)

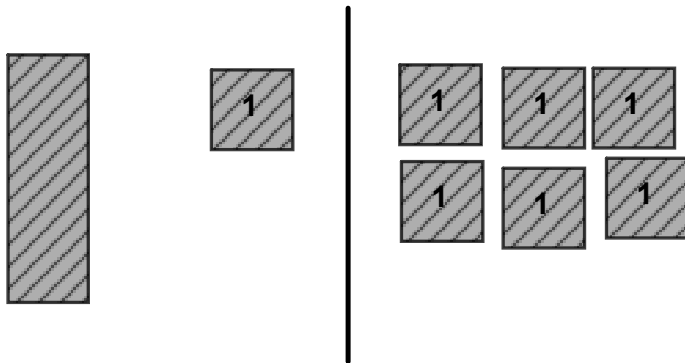
$2x - 2 = 4$

### Example: Use tiles to solve

Remember, whenever you are solving equations, whatever you do to one side of the equation, you **MUST** do to the other.

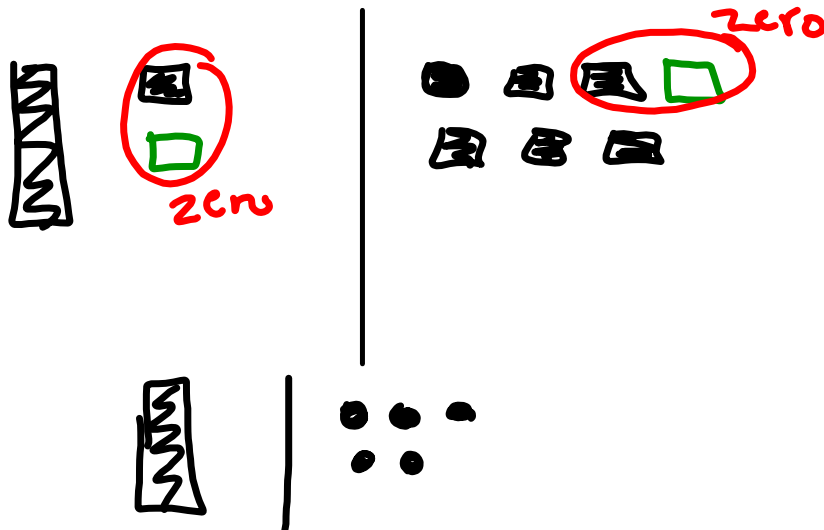
Write the equation

$$x + 1 = 6$$



### Need to get "x" all by itself

You have to take away 1 from the left side, so you have to also take one away from the right side



solution

$$x = 5$$

Solve the following



$$x - 2 = 3$$



$$x - 2 + 2 = 3 + 2$$

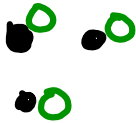


$$x = 5$$

b)



$$x + 3 = -2$$



$$x + 3 - 3 = -2 - 3$$



$$x = -5$$

Example: <sup>add 5</sup>

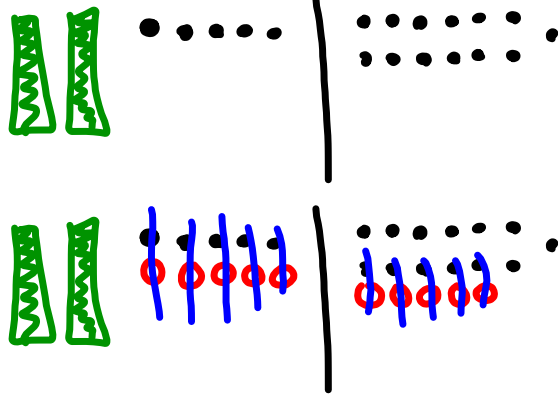
<sup>times 2x</sup>

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5 more than double a number is 13.

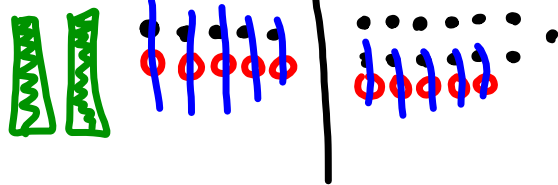
- a) Write an equation you can solve to find the number.
- b) Use tiles to SOLVE the equation
- c) Verify the solution

$$2x + 5 = 13$$

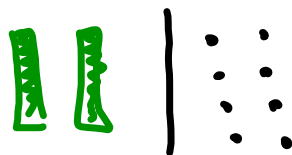


or

$$5 + 2x = 13$$



$$2x + 5 - 5 = 13 - 5$$



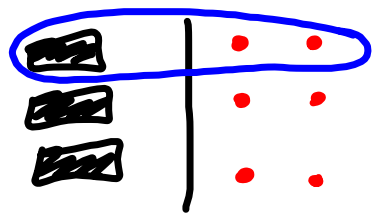
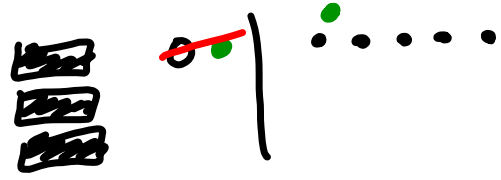
$$2x = 8$$

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

$$x = 4$$



$$3x - 1 = 5$$



$$x = 2$$

$$3x - \cancel{1} = 5 + 1$$

$$3x = 6$$
$$\div 3 \quad \div 3$$

Example:

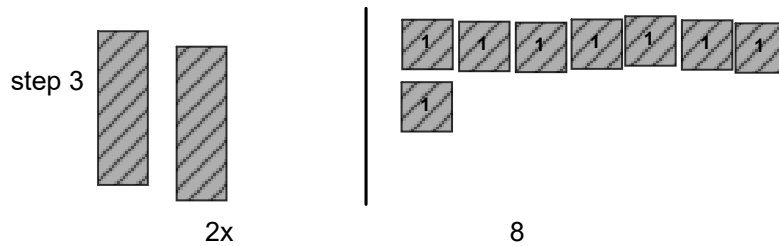
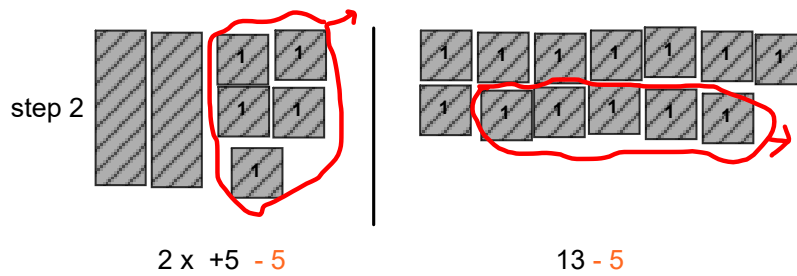
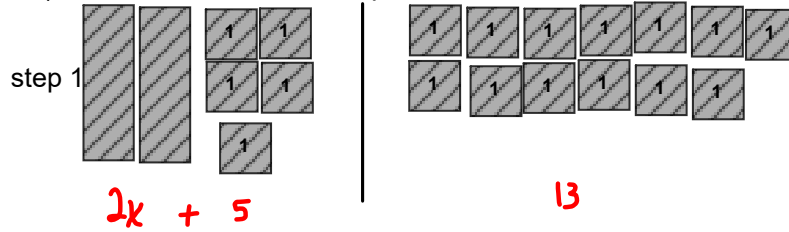
5 more than double a number is 13.

let "x" represent the number

a) Write an equation you can solve to find the number.

$$2x + 5 = 13$$

b) Use tiles to SOLVE the equation



line up into "2" groups



step 4 )  $x = 4$

c) Verify  $2x + 5$

sub in  $x = 4$  into the left hand side

$$2(4) + 5$$

$$8 + 5$$

$$13$$

Right hand side

We know we are correct

$$2x + 5 = 13$$

Sheet

# 1 a, c, e → Draw Tiles + Solve

# 2 ab → Use Algebra

# 4 →



## Attachments

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Grade 7 Unit 1 Shee 13.docx