

Warm Up Grade

Nov. 15, 2022

Test Nov. 22



1. Write equations for each of the following (remember to tell what your variable stands for):

(a) a number decreased by 7 is 11

$$n - 7 = 11$$

let $n \equiv$ a number

(b) Five times a number increased by 8 is 73

$$5n + 8 = 73$$

2. Translate the following into words:

(a) $6m + 4 = 46$

6 times a number increased by 4 is 46

(b) $15/m = 3$

The quotient of 15 and a number is 3.

(c) $x - 7 = 56$

↓
a number decreased by 7 is 56

1. Write an equation for each sentence.

a) Eight more than a number is 12.

$$8 + n = 12$$

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b) Eight less than a number is 12.

$$a - 8 = 12$$



2. Write a sentence for each equation.

a) $12 + n = 19$

b) $3n = 18$

c) $12 - n = 5$

d) $\frac{n}{2} = 6$

a) $p =$ the # of people

$$6p = 258$$

b) $s =$ number of students

$$\frac{s}{2} = 21$$

3. Write an equation for each sentence.

a) Six times the number of people in the room is 258.

b) One-half the number of students in the band is 21.

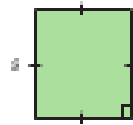
c) The area of a rectangle with base 6 cm and height h centimetres is 36 cm².

$$c) 6 \times h = 36$$

or

$$6h = 36$$

4. The perimeter of a square is 156 cm.
Write an equation you could use to find the side length of the square.

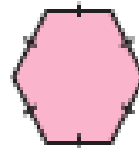


Homework Solutions

Recall that perimeter is the distance around a shape.

$$4s = 156 \quad \text{or} \quad s + s + s + s = 156$$

5. The side length of a regular hexagon is 9 cm.
Write an equation you could use to find the perimeter of the hexagon.



$$h = \text{perimeter}$$

$$6 \times 9 = h$$

6. Match each equation with the correct sentence.

a) $n + 4 = 8$

b) $4n = 8$

c) $n - 4 = 8$

d) $4 + 4n = 8$

A. Four less than a number is 8.

B. Four more than four times a number is 8.

C. The sum of four and a number is 8.

D. The product of four and a number is 8.

c
d
a
b

7. Alonso thinks of a number.

He divides the number by 4, then adds 10.

The answer is 14.

Write an equation for the problem.

$$\frac{n}{4} + 10 = 14$$

Homework Solutions

B. Assessment Focus

a) Write an equation for each sentence.

i) Five times the number of students is 295.

$$5n = 295$$

ii) The area of a rectangle with base 7 cm and height h centimetres is 28 cm^2 .

$$7 \times h = 28 \quad (7h = 28)$$

iii) The cost of 2 tickets at x dollars each and 5 tickets at \$4 each is \$44.

$$2x + 20 = 44$$

iv) Bhavin's age 7 years from now will be 20 years old.

$$c + 7 = 20$$

b) Which equation was the most difficult to write? Why?

c) Write your own sentence, then write it as an equation.

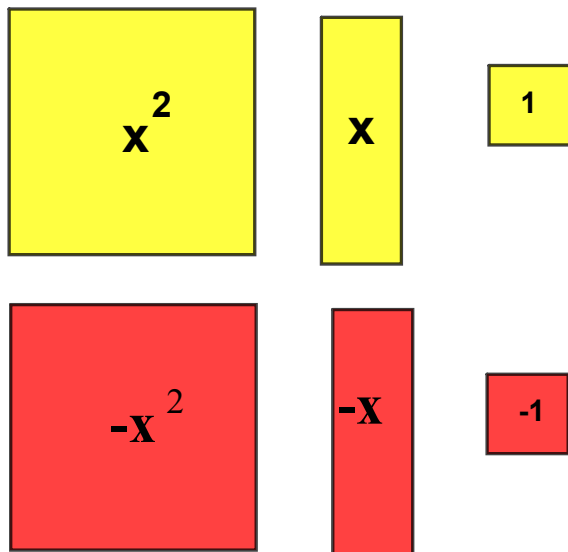
Solving Equations

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

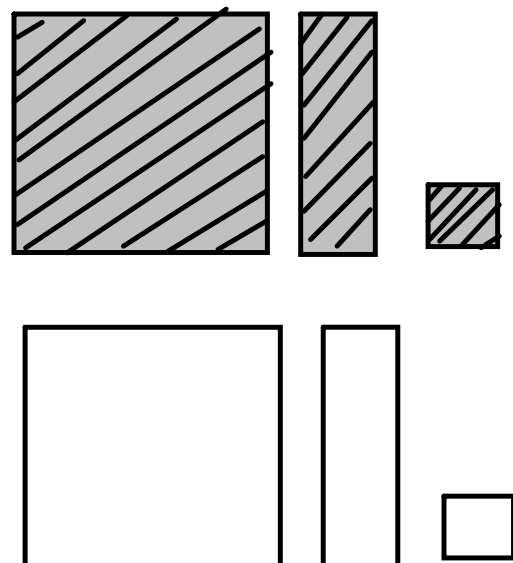
Algebra tiles can also be used to help you solve equations.

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

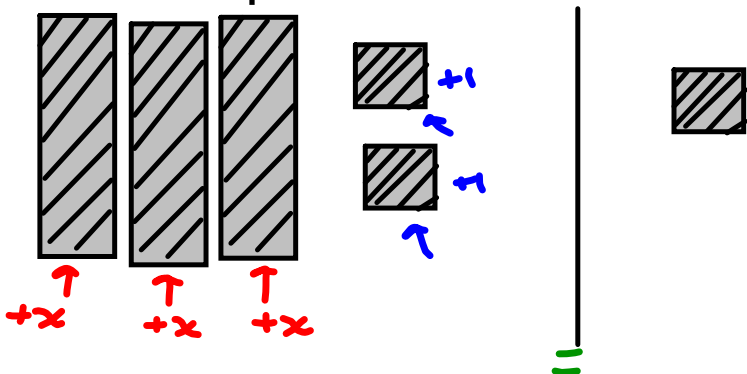
On the computer



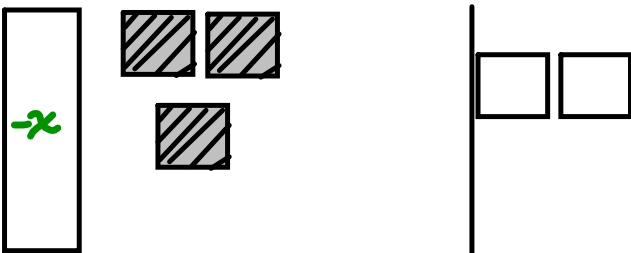
When drawn:



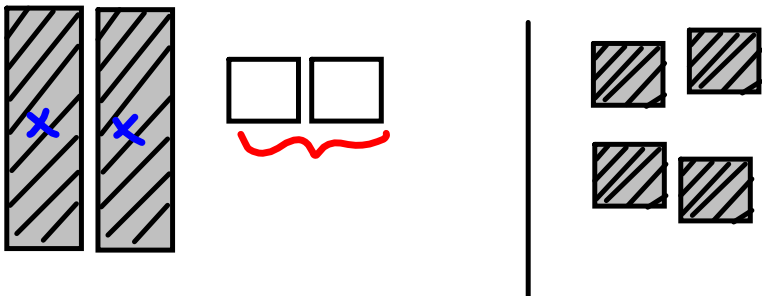
Write an equation for each model

a) 

$$\underline{3x + 2 = 1}$$

b) 

$$\underline{-x + 3 = -2}$$

c) 

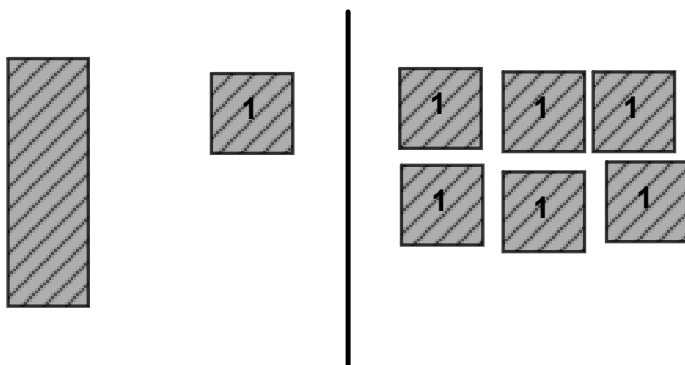
$$\underline{2x - 2 = 4}$$

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.

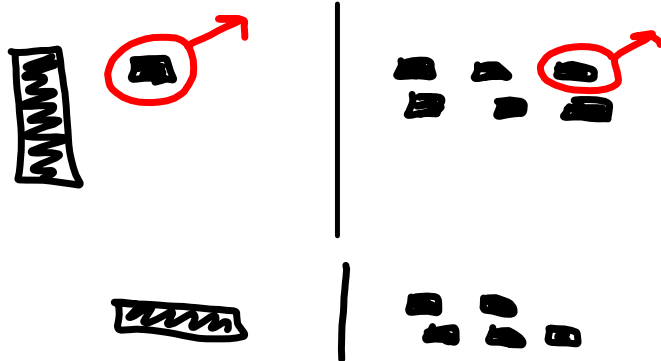
Write the equation

$$x + 1 = 6$$



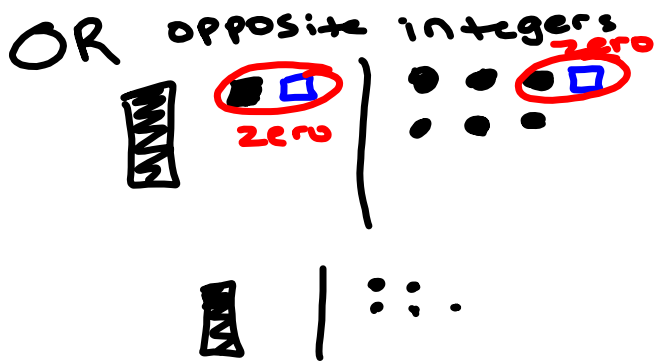
Need to get "x" all by itself

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



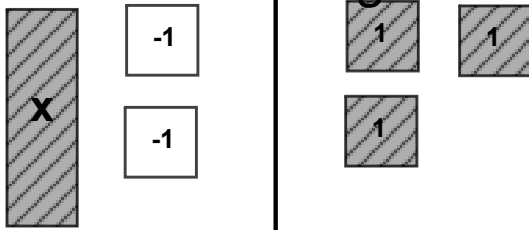
$$\cancel{x + 1} - 1 = \underline{\underline{6 - 1}}$$

solution $x = 5$



$$x + 1 = 6$$
$$x + 1 - 1 = \underbrace{6 - 1}$$
$$x = 5$$

Solve the following



$$x - 2 = 3$$

Do opposite to units



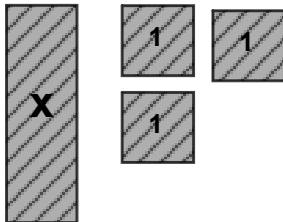
$$x - 2 + 2 = 3 + 2$$

zero
zero

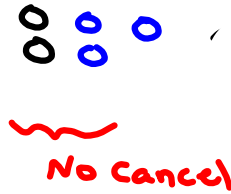


$$x = 5$$

b)



$$x + 3 = -2$$



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



$$x = -5$$

Example:

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

$5 + 2x = 13 \rightarrow$

$5 + 2x = 13$

$2x = 8$

$x = 4$

$$3x + 7 = 12.22$$

$$3x + \cancel{7} = 12.22 - 7$$

$$\underset{\div 3}{3x} = \underset{\div 3}{5.22}$$

$$x = 1.74$$

Example:

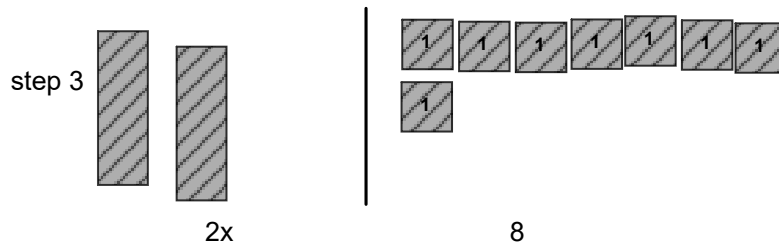
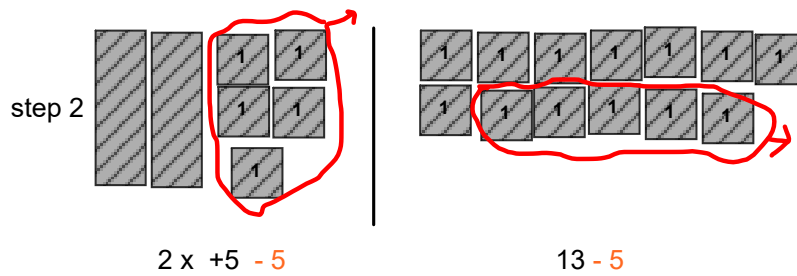
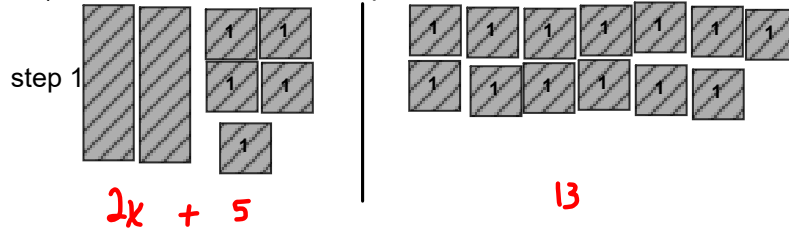
5 more than double a number is 13.

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

$$2x + 5 = 13$$

Class/Homework

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1,
#2,
#3

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Attachments

Grade 7 Unit 1 Shee 13.docx