

Honors Math 2



Make sure you are in the correct room!
Check your seat # on the board and take a seat.
Pick up one of each handout by the window.

Today's Riddle:

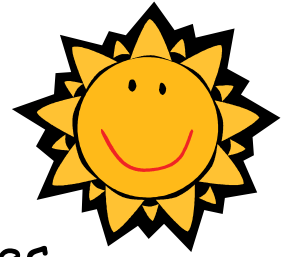
What is so fragile that even saying its name will break it?

Honors Math 2

Unit 1 Day 1

Please stay alert to the day numbering!
Today is “Day 1” because yesterday was
pre-requisite material review.

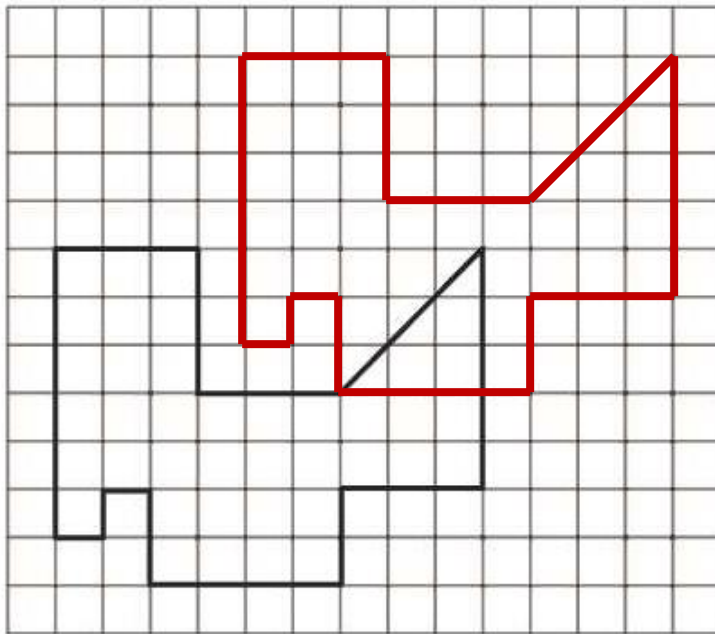
Warm Up – on Notes Packet!



Transformations: Translations

A translation, or a slide, is the movement of a figure from one position to another without turning. To the right are examples of a horizontal slide and a vertical slide.

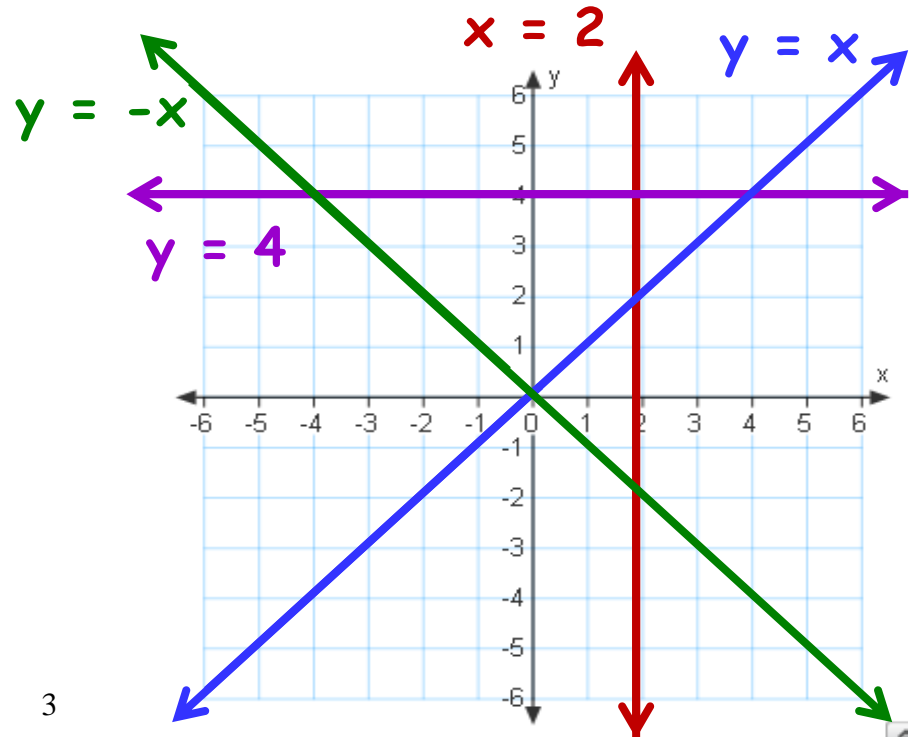
Look at the figure below. Slide the figure 4 units to the right and 4 units up. Draw the image on the graph.



Prerequisite Skill: Graphing Lines

Graph the following lines.

- 1) $x = 2$
- 2) $y = 4$
- 3) $y = x$ (Hint: this is $y = 1x + 0$)
- 4) $y = -x$ (Hint: this is $y = -1x + 0$)



Homework Answers – Day 0 HW (back of Cover Sheet)

- 1) $X = 5$
- 2) $X = \pm 6$
- 3) $X = -5/3$
- 4) $X = 5, AB = 24$
- 5) $X = 10, AC = 104$
- 6) On Next Slide ->
- 7) $X = 3$
- 8) $X = 3, m\angle ABC = 54^\circ$
- 9) $X = 32, RS = 209, MN = 209$
- 10) $X = 6/7, RS = 82/7, MN = 82/7$

Homework Answers – Day 0 HW continued

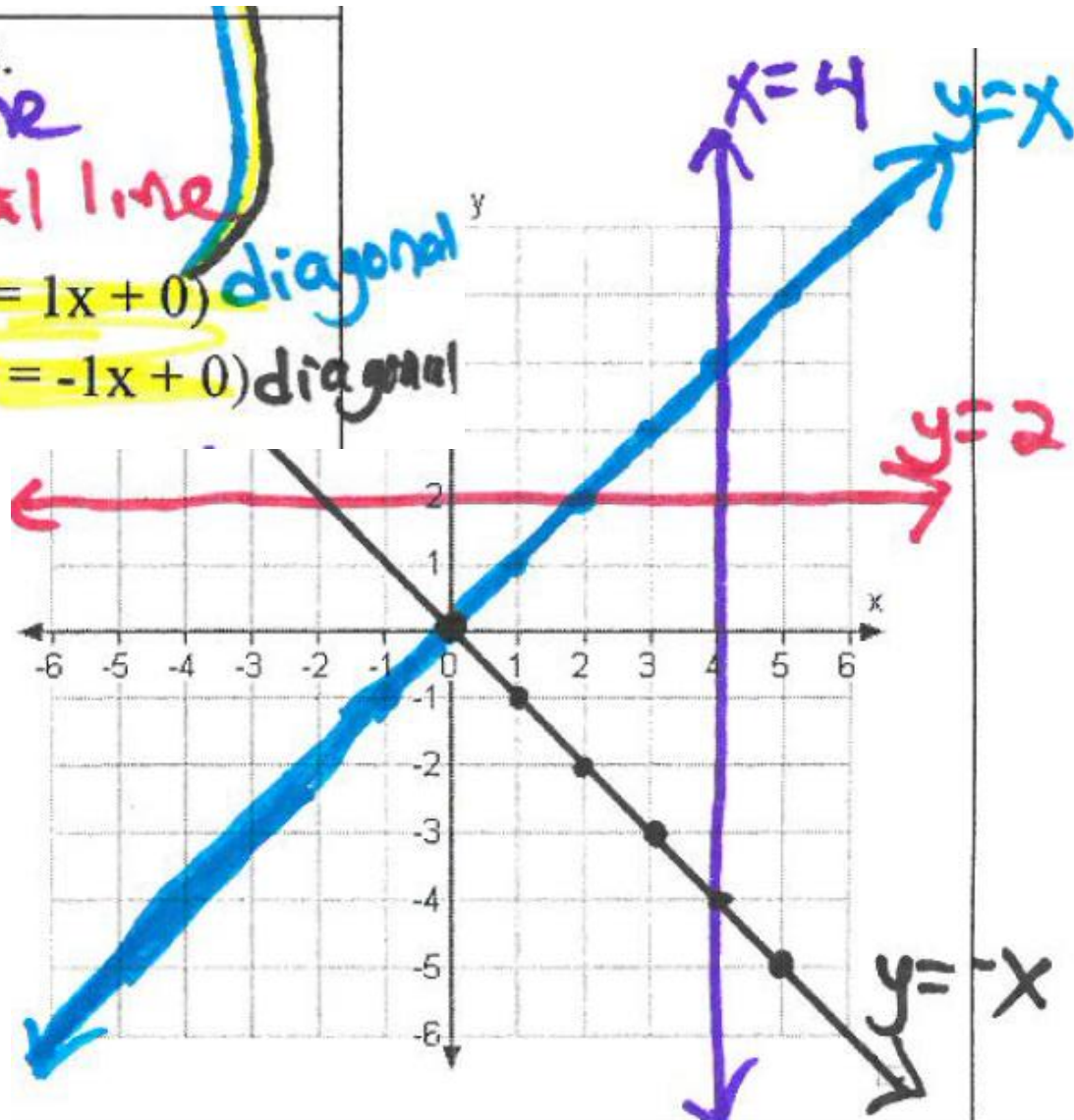
6. Graph the following lines.

a. $x = 4$ vertical line

b. $y = 2$ horizontal line

c. $y = x$ (Hint: this is $y = 1x + 0$) diagonal

d. $y = -x$ (Hint: this is $y = -1x + 0$) diagonal



Any More Questions from the Day 0 Placemat?

- Let's talk through some more pre-requisite questions

Honors Math 2

Unit 1 Day 1

Transformations & Translations

Back to the Notes Packet!!

Please stay alert to the day numbering!
Today is “Day 1” because yesterday was
pre-requisite material review.

Introduction to Transformations and Translations

Congruent figures have the same size and the same shape. When two figures are congruent, you can move one so that it fits exactly on the other one.

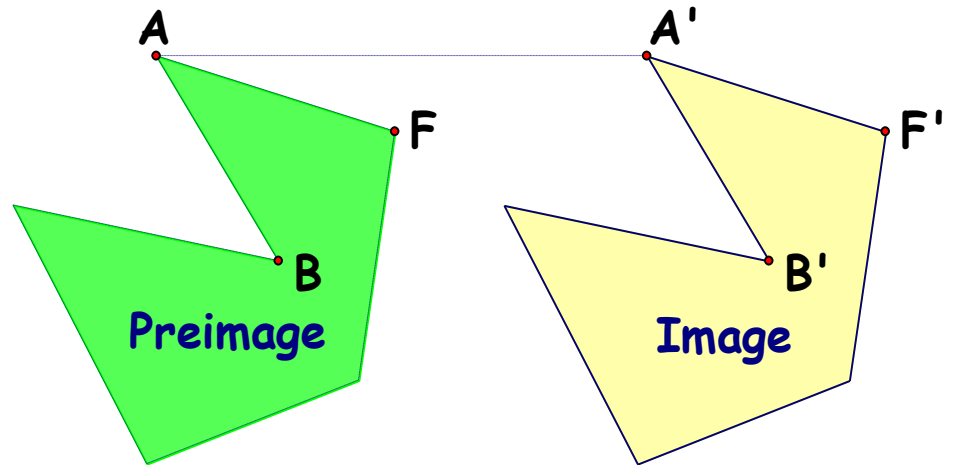


Transformation of a geometric figure:
change in its position, shape, or size.

Preimage

- original figure

Notation: FAB



Image

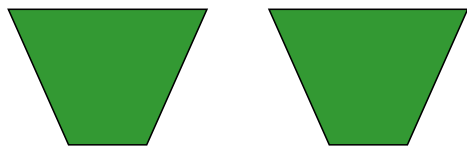
- new or resulting figure

Notation: F'A'B'

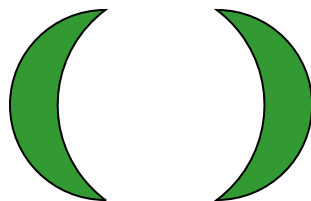
Isometry - transformation in which preimage and image are the same size and same shape (also called: rigid transformation / motion)

Examples:

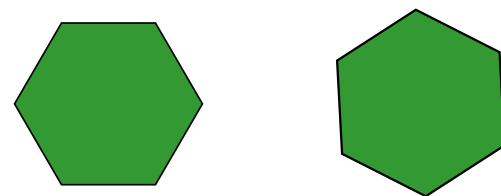
translation



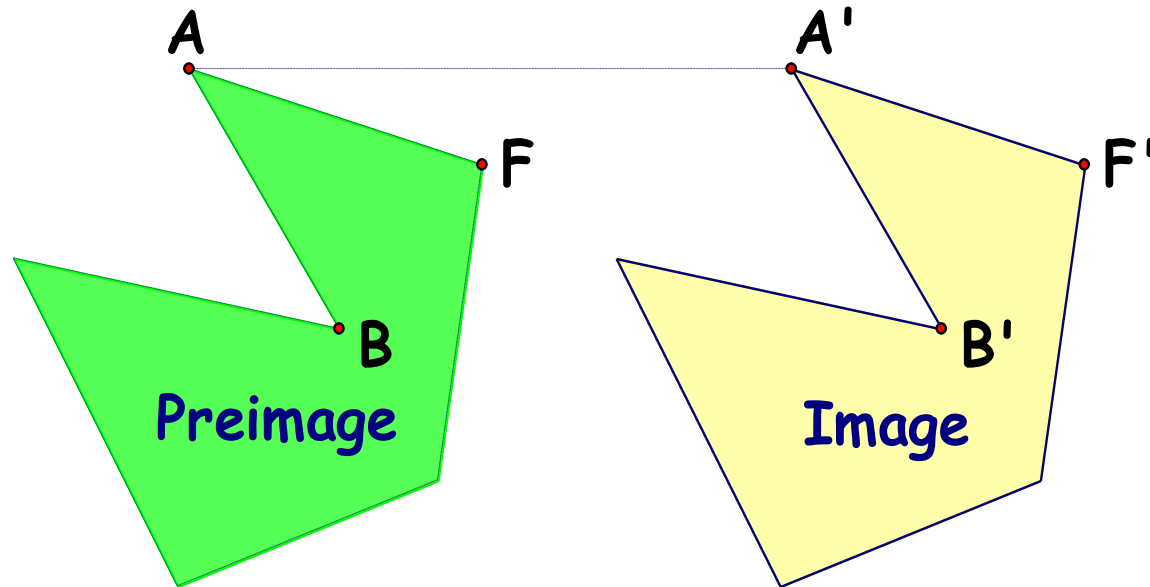
reflection



rotation



Translation - an isometry that maps all points the same distance and the same direction .



Are a preimage and its' translated image always congruent?

YES! The image is just "slid over"!

Do Activity 1: Patty Paper Translation

THROUGH

Activity 2: Dot Paper Translations

Notes p. 2-3

Be sure to read ALL Definitions AND Directions!

Ask Teacher or Neighbors if you have questions

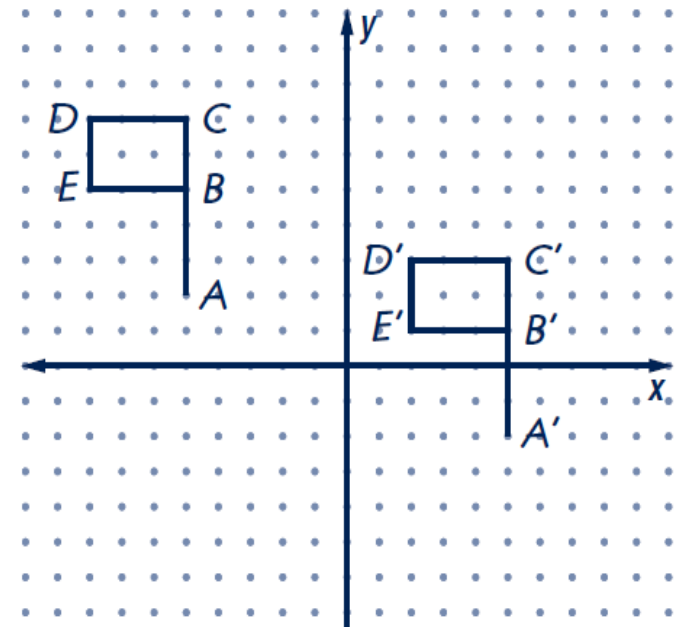
After Checkpoint, Check in with Teacher

Any Questions from this part on page 2?

Three ways to describe a transformation
(using the example shown):

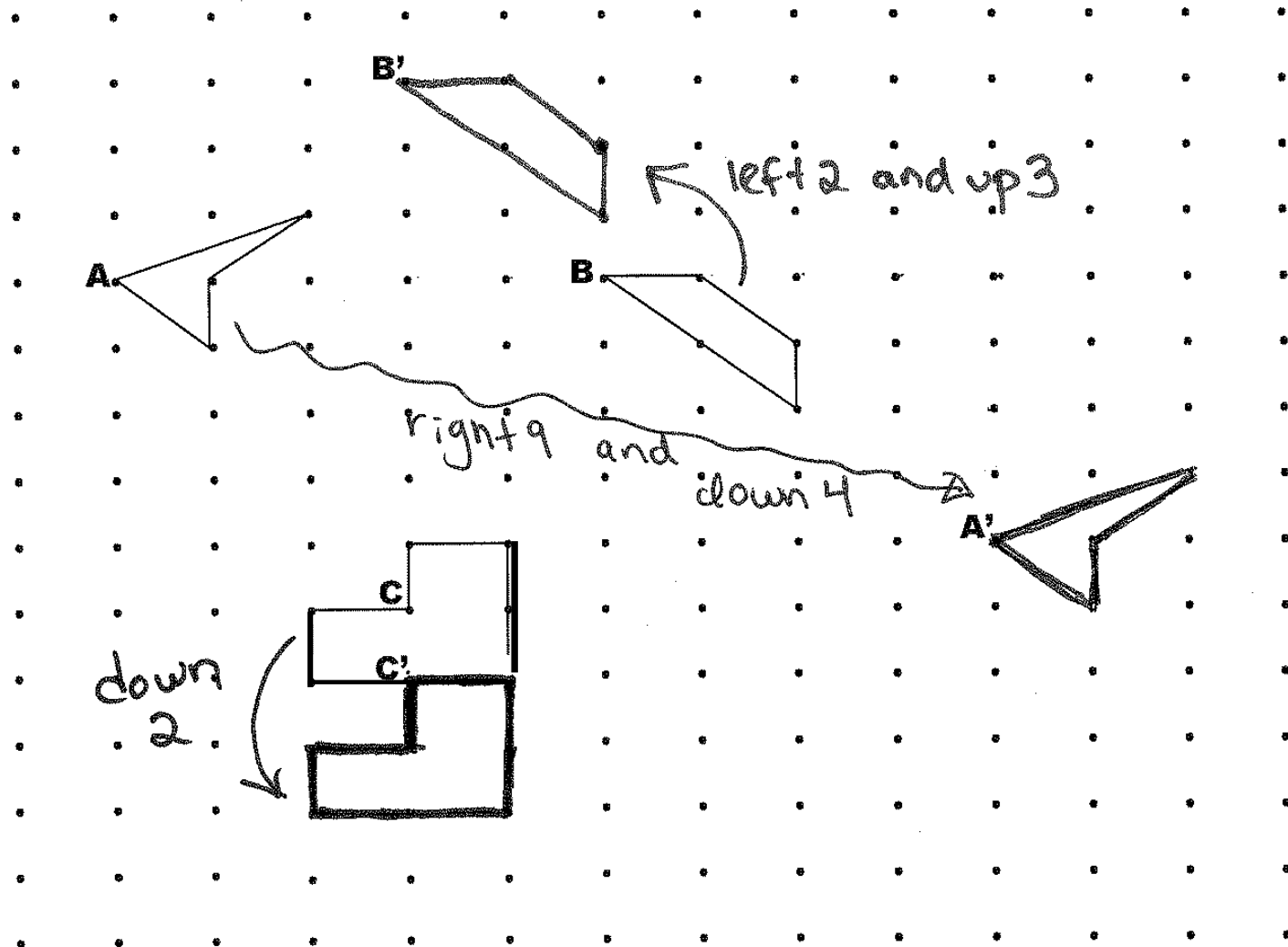
**Always be specific when completing any type of description!!

- **Words** Translation to the right 10 units and down 4 units.
- **Algebraic Rule** (motion rule):
 $T: (x, y) \rightarrow (x + 10, y - 4)$.
- **Vector** $\langle 10, -4 \rangle$



Any Questions?

Check your Answers from page 3!



Check your Answers from page 3!

Checkpoint: $\triangle GEO$ has coordinates $G(-2, 5)$,
 $E(-4, 1)$ $O(0, -2)$. A translation maps G to G' $(3, 1)$.

1. Find the coordinates of:

a) E' (**1** , **-3**)

b) O' (**5** , **-6**)

2. The translation rule is:

$$(x, y) \rightarrow (\mathbf{x + 5} , \mathbf{y - 4}) \quad \text{or} \quad \langle \mathbf{5} , \mathbf{-4} \rangle$$



Algebraic Rule



Vector

3. Specifically describe the transformation:

Translation to the right 5 units and down 4 units.

Tonight, remember...

- 1) Homework Listed on Outline
– Packet Pg 1 & 2 Even, Packet Pg 3-5 ALL
- 2) Get onto course website – Print Notes Day 5-7
honorsmath2greenhope.weebly.com
- 3) Get Syllabus/Honor Code Form signed by you
AND your parent – due tomorrow!!
- 4) Get supplies for class
- 5) Set up your WCPSS email
account ASAP (if not done yet)!



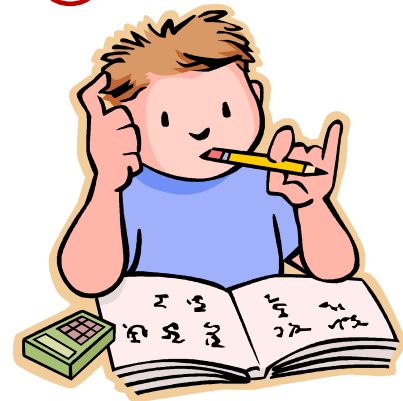
Start Homework in Packet!

Packet p. 1 & 2 Even

Packet p. 3, 4, 5 all

I recommend starting this
Geometry review part first!
Ask questions, if needed! 😊

Let's look at p. 3 together!



Homework Packet p. 3

1. In the segment below, another name for \overline{AB} is BA

2. Using the segment below, the notation AC means

The distance from
point A to point C



Homework Packet p. 3

3. Segment Addition Postulate:

$$\underline{AB + BC = AC}$$

In the segment below,

$$AB = 2x + 9, BC = 4x - 7, AC = 38$$

What does x equal?

$$2x + 9 + 4x - 7 = 38$$

$$x = \underline{6}$$

$$6x = 36$$

$$x = 6$$



Homework Packet p. 3

4. Definition of a Midpoint:

A point that divides a segment into two congruent segments

In the segment below,
B is the midpoint of AC.

$$AB = 4x + 2, BC = 6x - 8$$

What do x and AC equal?

$$x = \underline{5} \quad AC = \underline{44}$$

$$4x + 2 = 6x - 8$$

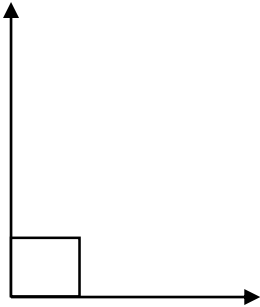
$$10 = 2x$$

$$x = 5$$

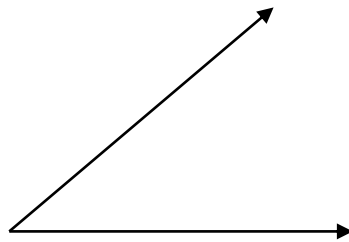


Homework Packet p. 3

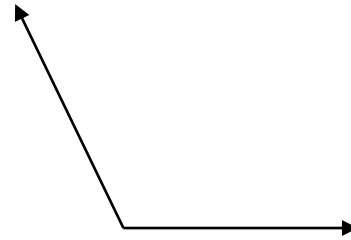
5. Classify the following angles:



Right



Acute



Obtuse



Straight

6. Angle Addition Postulate:

$$m\angle 1 + m\angle 2 = m\angle ABC$$

$$m\angle 1 = 7x - 2$$

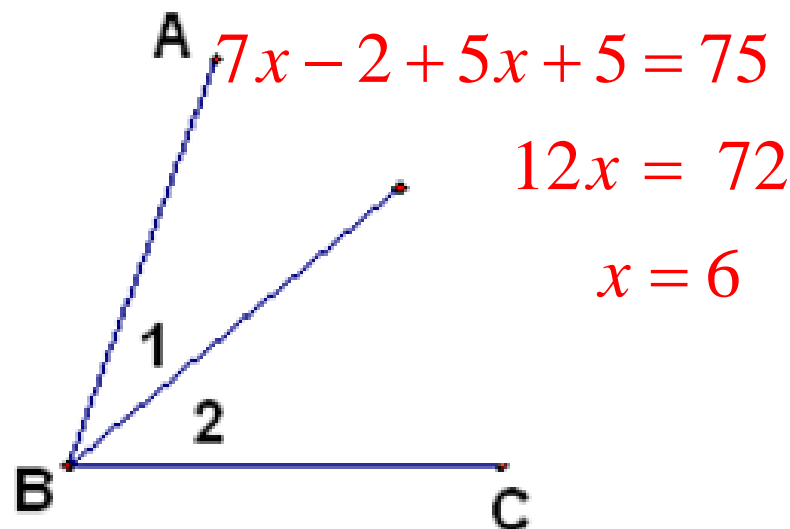
$$m\angle 2 = 5x + 5$$

$$m\angle ABC = 75^\circ$$

What is x equal to?

$$x = \underline{6}$$

SIDE NOTE: $m\angle 1$ is the shortcut way of writing "the measure of angle 1." It's like math texting – you write LOL instead of "laughing out loud," math people write $m\angle 1$ instead of "the measure of angle 1."



7. **Definition of an Angle Bisector:** A ray or segment that divides an angle into two congruent angles

\overrightarrow{BD} bisects $\angle ABC$

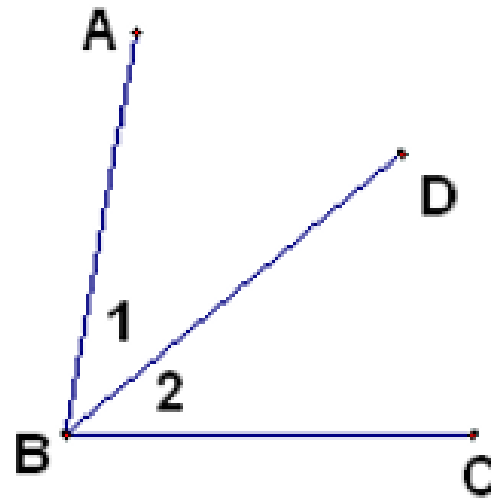
$$m\angle 1 = 5x - 12$$

$$m\angle 2 = 2x + 21$$

What is x and $m\angle ABC$?

$$x = \underline{11}$$

$$m\angle ABC = \underline{86}$$



$$5x - 12 = 2x + 21$$

$$3x = 33$$

$$x = 11$$

Kahoot Quiz!

- Get out your phone and go to Kahoot.it



<https://play.kahoot.it/#/?quizId=bbcb2beb-7e73-4f7e-927e-e1399a65fb12>