

Math 2 - Honors

Day 1 Review (Foundations Skills needed for Unit 1) Name: _____

1. Solve: $\frac{3}{x} = \frac{12}{15}$

2. Solve: $\frac{3}{x} = \frac{x}{27}$

3. Solve: $\frac{3}{x+2} = \frac{15}{20}$

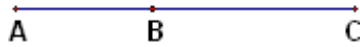
4. Segment Addition Postulate:

In the segment below,

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

What do x and AB equal?

$x = \underline{\hspace{2cm}}$ $AB = \underline{\hspace{2cm}}$



5. Definition of a Midpoint:

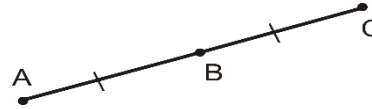
In the segment below,

B is the midpoint of \overline{AC} .

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

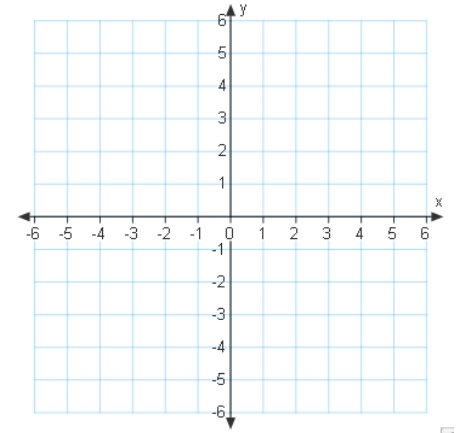
What do x and AC equal?

$x = \underline{\hspace{2cm}}$ $AC = \underline{\hspace{2cm}}$

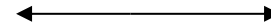
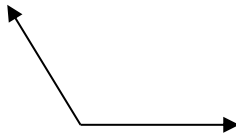
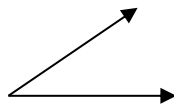
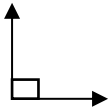


6. Graph the following lines.

- a. $x = 2$
- b. $y = 4$
- c. $y = x$ (Hint: $y = 1x + 0$)
- d. $y = -x$ (Hint: $y = -1x + 0$)



7. Classify the following angles:



8. Angle Addition Postulate:

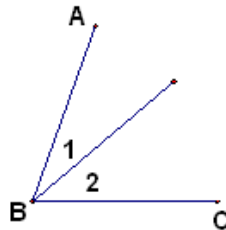
$m\angle 1 = 7x - 2$

$m\angle 2 = 5x + 5$

$m\angle ABC = 75^\circ$

What is x equal to?

$x = \underline{\hspace{2cm}}$



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."

9. Angle Bisector: line or ray that divides an **angle** into two congruent **angles**.

\overline{BD} bisects $\angle ABC$

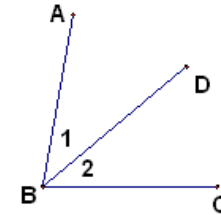
$m\angle 1 = 5x - 12$

$m\angle 2 = 2x + 21$

What are x and $m\angle ABC$?

$x = \underline{\hspace{2cm}}$

$m\angle ABC = \underline{\hspace{2cm}}$



For 10-11, suppose $\overline{RS} \cong \overline{MN}$. For each set, solve for x , and find the length of each segment.

10. $RS = 3x + 17, MN = 7x - 15$

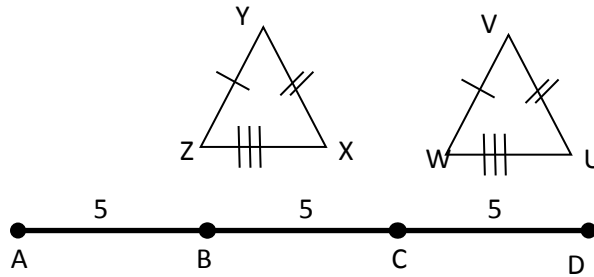
11. $RS = x + 10, MN = 2x + 4$

$x = \underline{\hspace{2cm}}$ $RS = \underline{\hspace{2cm}}$ $MN = \underline{\hspace{2cm}}$

$x = \underline{\hspace{2cm}}$ $RS = \underline{\hspace{2cm}}$ $MN = \underline{\hspace{2cm}}$

12. **Congruent** (\cong) means “the same size and shape.” **Equal** ($=$) refers to numerical values. Fill in the following blanks with \cong or $=$. Use the diagrams at the right to assist you.

- a. $4 + 6$ _____ 10
 b. $\triangle ZYX$ _____ $\triangle WVU$
 c. $4x + 8$ _____ $4(x + 2)$
 d. \overline{AB} _____ \overline{CD}
 e. \overline{AB} _____ \overline{CD}



13. If U is between T and B, find the value of x and the lengths of the segments. (Hint: Draw a picture for each problem with the given information and then write the equation to solve.)
 ***"between" implies on the same line as the other 2 points.

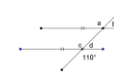
- a. $TU = 2x$, $UB = 3x + 1$, $TB = 21$
 $x =$ _____
 $TU =$ _____
 $UB =$ _____
- b. $TU = 4x - 1$, $UB = 2x - 1$, $TB = 5x$
 $x =$ _____
 $TU =$ _____
 $UB =$ _____

14. Given what you know about triangles, right angles, and straight angles, solve for the variables:



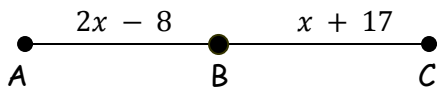
15. The angles around parallel lines have some really interesting properties...can you figure them out? Find the values of a, b, c, and d.

- $a =$ _____
 $b =$ _____
 $c =$ _____
 $d =$ _____



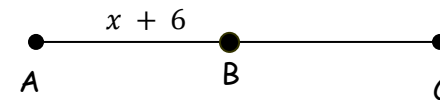
Side Note: The little arrows on the two segments are Geometry notation for saying “these segments are parallel.”

16. Let $\overline{AB} \cong \overline{BC}$.



- $x =$ _____ $AB =$ _____
 $BC =$ _____ $AC =$ _____

17. Let $\overline{AB} \cong \overline{BC}$ and $AC = 3x - 31$



- $x =$ _____
 $AB =$ _____
 $BC =$ _____
 $AC =$ _____