Key

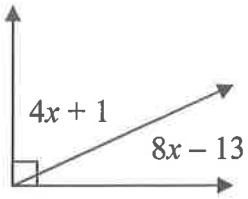
Math 1

Name _____

6-1 – 6-3 Vocabulary, Drawings, Algebra Review

Date _____

1. Use the picture below to answer the following questions.



a. What vocabulary term best describes the relationship for the angles marked above?

Term (not looking for adjacent) – Complementary angles

Property (circle one) – **Congruent** **Supplementary** **Complementary**

Definition – two angles that sum to 90°

b. Find the value of x.

$4x + 1 + 8x - 13 = 90$

$12x - 12 = 90$

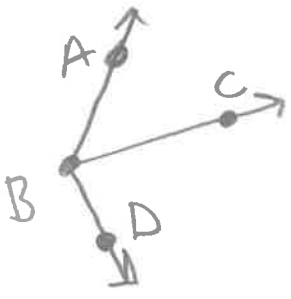
$12x = 102$

$\boxed{x = 8.5}$

c. Find the measure of both angles.

$4(8.5) + 1 = \boxed{35°}$ $\quad 8(8.5) - 13 = \boxed{55°}$

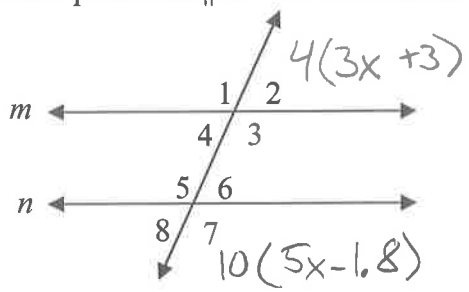
2. Draw the following: $\angle ABC$ adjacent to $\angle CBD$.



3. If I name a line $\overleftrightarrow{AB}$, what is another possible name for that ~~segment~~ line? ~~(don't say line)~~

$\overleftrightarrow{BA}$

4. In the picture $m \parallel n$. The measure of $\angle 2 = 4(3x+3)$ and the measure of $\angle 7 = 10(5x-1.8)$.



a. What vocabulary term best describes the relationship for the angles mentioned above?

Term – Same-side exterior angles

Property (circle one) – **Congruent** **Supplementary** **Complementary**

Definition – two angles on the same side of the transversal, but outside of the other two lines.

b. Solve for x.

$4(3x+3) + 10(5x-1.8) = 180$

$12x + 12 + 50x - 18 = 180$

$62x - 6 = 180$

$62x = 186$

$\boxed{x = 3}$

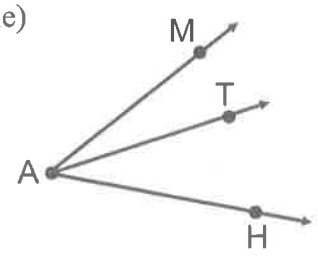
c. What are the measures of [illegible] $\angle 2$ & $\angle 7$

$m\angle 2 = 12x + 12 = 12(3) + 12 = \boxed{48°}$

$m\angle 7 = 50x - 18 = 50(3) - 18 = \boxed{132°}$ → or $180 - 48 = 132°$

5. What is another name for $\angle MAH$? (don't say angle or acute angle)

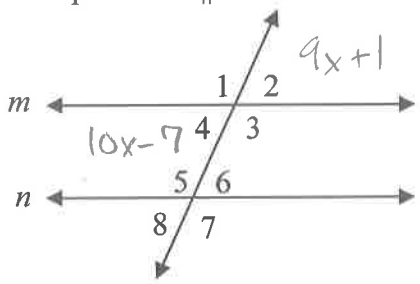
$\boxed{\angle HAM}$



6. What would have to be true for $\overrightarrow{AT}$ to be an angle bisector for the above picture?

$m\angle MAT \cong m\angle HAT$

7. In the picture $m \parallel n$. The measure of $\angle 2 = 9x+1$ and the measure of $\angle 4 = 10x-7$.



a. What vocabulary term best describes the relationship for the angles marked above?

Term – Vertical angles

Property (circle one) – **Congruent** **Supplementary** **Complementary**

Definition – two angles that are non-adjacent, non-overlapping and formed by intersecting lines.

b. Solve for x.

$10x-7 = 9x+1$

$\boxed{x = 8}$

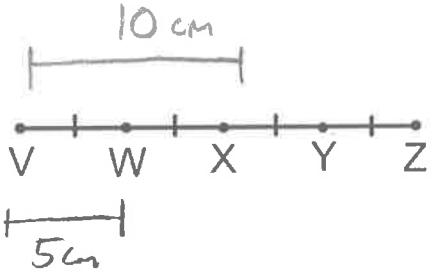
$\angle 2 \cong \angle 4$?

c. What are the measures of ~~both interior angles?~~

$m\angle 2 = 9(8)+1 = \boxed{73°}$

$m\angle 4 = \boxed{73°}$

8. The distance from VX = 10 cm, what is the length of $\overline{VY}$?



Each small segment is 5cm

$\boxed{\overline{VY} = 15cm}$

9. Define alternate interior angles

two angles that are non-adjacent, on opposite sides of the transversal and between the other two lines.

$\angle 4 \cong \angle 6$ from above

or $\angle 3 \cong \angle 5$