

Name: _____

Common Core Geometry

Date: _____

Period: _____

Chapter 2 Extra Review – Unknown Angles

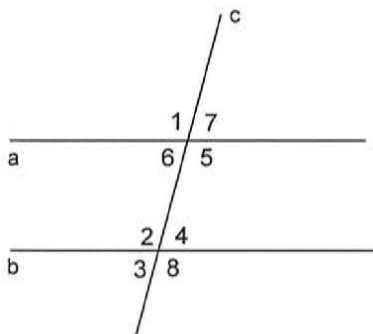
1. In the accompanying diagram, lines a and b are parallel and line c is a transversal. List a pair of

alternate interior angles $6 \angle 4, 2 \angle 5$

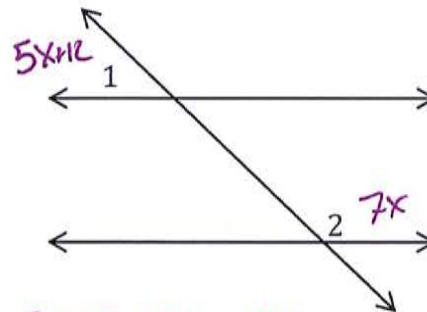
corresponding angles $1 \angle 2, 7 \angle 4, 6 \angle 3, 5 \angle 8$

alternate exterior angles $1 \angle 8, 7 \angle 3$

same side interior angles $2 \angle 6, 5 \angle 4$



2. In the diagram below of two parallel lines cut by a transversal, $m\angle 1 = 5x + 12$ and $m\angle 2 = 7x$. Find $m\angle 1$.



$$5x + 12 + 7x = 180$$

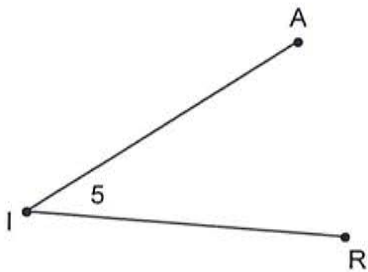
$$12x + 12 = 180$$

$$12x = 168$$

$$x = 14$$

$$m\angle 1 = 82$$

3. Which choice below may **not** be used to name $\angle AIR$?



(1) $\angle RIA$ ✓

(2) $\angle I$ ✓

(3) $\angle 5$ ✓

(4) $\angle RAI$

4.

5. The number of degrees in the measure of each of a pair of *vertical angles* formed by two intersecting lines is represented by $6x + 10$ and $5x + 25$. Find the measure of one of these angles.

$$6x + 10 = 5x + 25$$

$$x = 15$$

$$\text{angle} = 100$$

6. The measures of the angles of a triangle are $2x$, $3x$, and $4x$. The measure of the *largest* angle of this triangle is

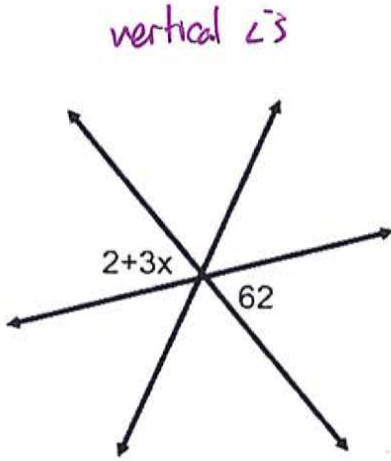
$$9x = 180$$

$$x = 20$$

$$\text{largest } \angle = 80$$

Part II:

7. Find the value of x .

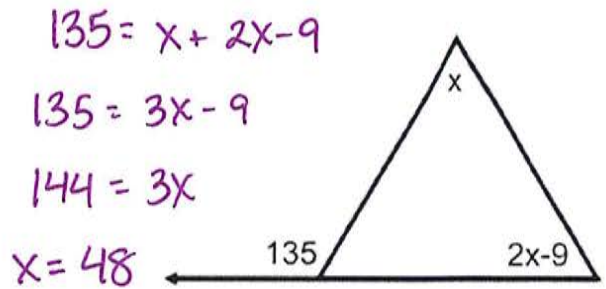


$$2+3x=62$$

$$3x=60$$

$$x=20$$

8. Find the value of x .



$$135 = x + 2x - 9$$

$$135 = 3x - 9$$

$$144 = 3x$$

$$x = 48$$

Part III:

9. Using the figure below and the given information, find the value of x and $m\angle BOE$. SHOW ALL WORK!

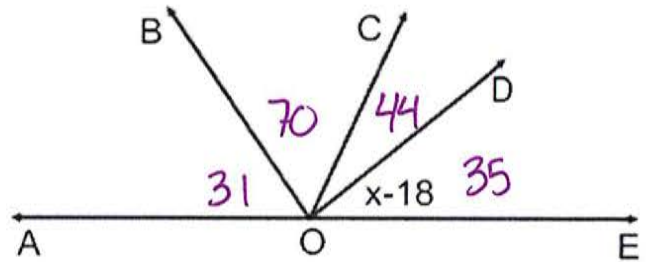
$$m\angle AOC = 101, m\angle COD = 44, m\angle BOC = 70$$

$$31 + 70 + 44 + x - 18 = 180$$

$$x + 127 = 180$$

$$x = 53$$

$$\angle BOE = 149$$



Part IV:

10. In the figure below, \overline{AB} and \overline{CD} are straight lines that intersect at O. $\overline{EO} \perp \overline{AB}$.

Find the following and give a reason for each step.

$x = \underline{30}$

$y = \underline{52}$

$m\angle BOF = \underline{32}$

$$\angle BOF + 96 + 52 = 180$$

is on a line

comp \angle 's

$$x+8 + 2x-8 = 90$$

$$3x = 90$$

$$x = 30$$

vertical \angle 's

$$y = 2(30) - 8$$

$$= 52$$

