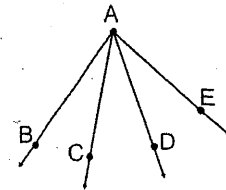


Review for 1<sup>st</sup> Semester Final Exam (Day 3)

1. How many angles are shown in the diagram? 6

Name them.  $\angle BAC, \angle CAD, \angle DAE, \angle BAD, \angle CAE, \angle BAE$



Questions #1 - 4

2.  $\overline{AD}$  bisects  $\angle CAE$ ,  $m\angle CAD = (6x - 6)^\circ$ , and  $m\angle DAE = (4x + 8)^\circ$ . Find  $m\angle CAE$ .

$$m\angle CAD = m\angle DAE$$

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

$$2x = 14$$

$$\boxed{x = 7}$$

$$m\angle CAE = (6x - 6) + (4x + 8)$$

$$m\angle CAE = 10x + 2$$

$$m\angle CAE = 10(7) + 2$$

$$\boxed{m\angle CAE = 72^\circ}$$

3.  $m\angle BAC = (4x)^\circ$ ,  $m\angle CAD = (5x + 7)^\circ$ ,  $m\angle DAE = (8x - 3)^\circ$ , and  $m\angle BAE = (20x - 8)^\circ$ . Find  $m\angle CAE$ .

$$m\angle BAC + m\angle CAD + m\angle DAE = m\angle BAE$$

$$4x + 5x + 7 + 8x - 3 = 20x - 8$$

$$17x + 4 = 20x - 8$$

$$12 = 3x$$

$$\boxed{4 = x}$$

$$m\angle CAE = m\angle CAD + m\angle DAE$$

$$= 5x + 7 + 8x - 3$$

$$= 13x + 4$$

$$= 13(4) + 4$$

$$\boxed{m\angle CAE = 56^\circ}$$

4.  $m\angle BAD = 51^\circ$  and  $m\angle DAC = 17^\circ$ . Find  $m\angle BAC$ .

$$m\angle BAD = m\angle BAC + m\angle DAC$$

$$51^\circ = m\angle BAC + 17^\circ$$

$$\boxed{34^\circ = m\angle BAC}$$

5.  $m\angle Q = 27.4^\circ$ . a) Find the measure of the supplement of  $\angle Q$ . ~~152.6~~ 180 - 27.4

b) Find the measure of the complement of  $\angle Q$ . 62.8 90 - 27.4

c) Find the measure of an angle that is a linear pair with  $\angle Q$ . 152.6 180 - 27.4

d) Find the measure of an angle that is vertical to  $\angle Q$ . 27.4

6. State the appropriate name for each angle pair.

a)  $\angle 5$  and  $\angle 1$

Alternate Exterior

b)  $\angle 7$  and  $\angle 8$

Linear Pair

c)  $\angle 6$  and  $\angle 8$

Corresponding

d)  $\angle 7$  and  $\angle 3$

Alternate Interior

e)  $\angle 4$  and  $\angle 1$

Same Side Exterior

f)  $\angle 2$  and  $\angle 8$

vertical

g)  $\angle 3$  and  $\angle 2$

Same Side Interior

