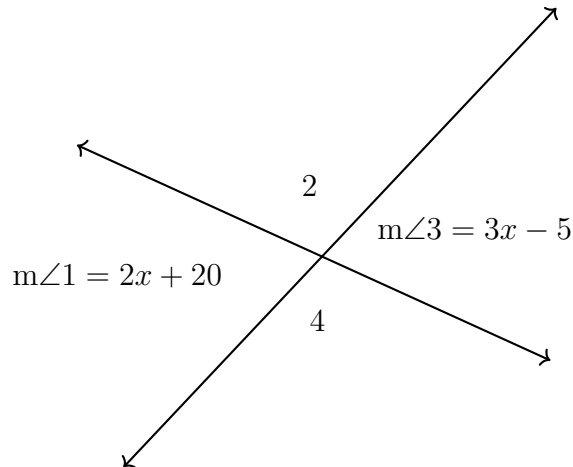


Name:

3.1 Homework: Mixed review

1. Two lines intersect with vertical angles $m\angle 1 = 2x + 20$ and $m\angle 3 = 3x - 5$. Find $m\angle 2$.

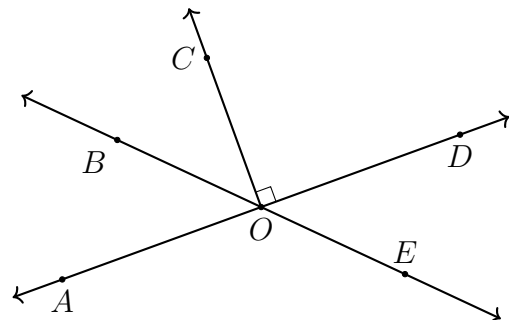


2. Write the appropriate name for the type of angle depending on its measure in degrees.
 (acute, right, obtuse, or straight)

- (a) $m\angle = 90$: _____
 (b) $90 < m\angle < 180$: _____
 (c) $0 < m\angle < 90$: _____
 (d) $m\angle = 180$: _____

3. Identify the true statement(s) given $\angle AOB = 2x$ and $\angle BOC = 5x + 20$.

- (a) $\angle AOB \cong \angle BOC$
 $2x = (5x + 20)$
 (b) $\angle AOB, \angle BOC$ are complementary
 $2x + (5x + 20) = 90^\circ$
 (c) $\angle AOB$ and $\angle BOC$ are a linear pair
 $2x + (5x + 20) = 180^\circ$



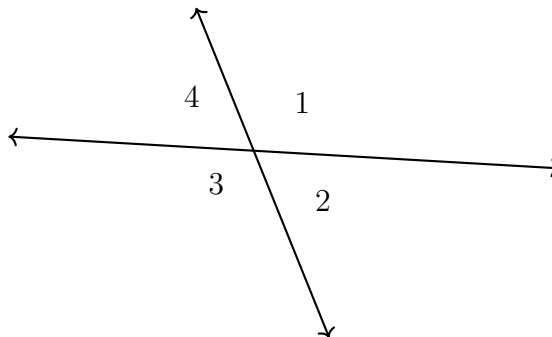
Copy the correct equation and solve for x . Check your answer.

4. As shown below, two lines intersect making four angles: $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$.

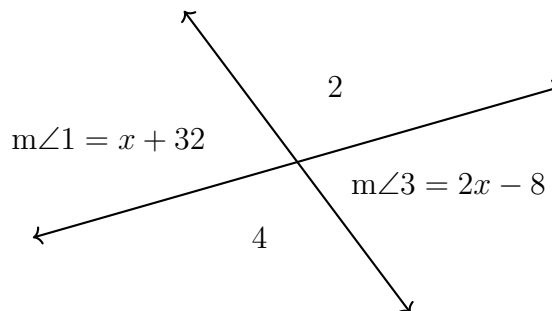
(a) Name a pair of vertical angles.

(b) Given $m\angle 4 = 70^\circ$, write down $m\angle 2$.

(c) Find $m\angle 1$.



5. As shown below, two lines intersect making four angles: $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$. Given that $m\angle 1 = x + 32$ and $m\angle 3 = 2x - 8$, find $m\angle 1$.



6. An angle bisector is shown below, with \overrightarrow{PR} bisecting $\angle QPS$. Given $m\angle QPR = 3x - 2$ and $m\angle RPS = 2x + 23$, find $m\angle QPS$.

