

## Bisectors and Midpoints

Name \_\_\_\_\_

**Vocabulary:**

Bisect -

Bisector -

Fill in the blank:

1. If an acute angle is bisected, the resulting angles are \_\_\_\_\_.
2. If an obtuse angle is bisected, the resulting angles are \_\_\_\_\_.
3. If a right angle is bisected, the resulting angles are \_\_\_\_\_.
4. If a straight angle is bisected, the resulting angles are \_\_\_\_\_.

Midpoint -

**The Midpoint Formula**

\_\_\_\_\_

Ex. 1

Find the coordinates of the midpoint of a line segment with endpoints  $A(-6, 4)$  and  $B(2, -10)$ .

Ex 2. Find the coordinates of  $R$  if  $N(8, -3)$  is the midpoint of  $RS$  and  $S$  has coordinates  $(-1, 5)$ .

Ex. 3  $M$  is between  $O$  and  $P$ .

$$OM = x + 8 \quad MP = 2x - 6$$

$$OP = 44$$

Is  $M$  the midpoint of  $OP$ ?

Ex. 4 Given:  $\overline{SQ}$  is the bisector of  $\angle PSR$ . Find the measure of  $m\angle PSR$  if  $m\angle QSR = 75$ .