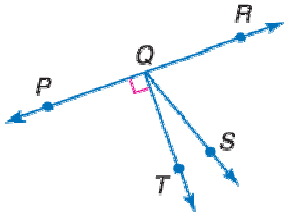
Lesson 8-1

Example 1

Use the figure shown to name the following.



a. adjacent angles

b. supplementary angles

c. complementary angles

Solution

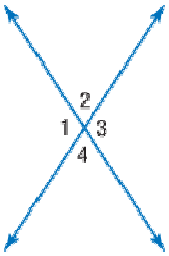
a. adjacent angles: $\angle PQT$ and $\angle TQS$, $\angle PQT$ and $\angle TQR$, $\angle PQS$ and $\angle SQR$, $\angle TQS$ and $\angle SQR$

b. supplementary angles: $\angle PQT$ and $\angle TQR$, $\angle PQS$ and $\angle SQR$

c. complementary angles: $\angle TQS$ and $\angle SQR$

Example 2

In the figure, $m\angle 2 = 57°$.
Find the angles measurements.



a. $m\angle 4$ **b.** $m\angle 3$

Solution

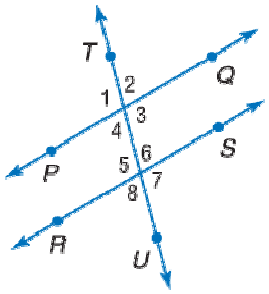
a. $\angle 2$ and $\angle 4$ are vertical angles, so they have the same measure.
$m\angle 2 = m\angle 4$, so $m\angle 4 = 57°$.

b. $\angle 2$ and $\angle 3$ are supplementary angles, so the sum of their measures is 180°.

$$m\angle 3 + 57° = 180°$$
$$m\angle 3 = 180° - 57°$$
$$m\angle 3 = 123°$$

Example 3

In the figure, $\overline{PQ}$ ॐ $\overline{RS}$ and $m\angle 3 = 106°$.
Find each measure.



a. $m\angle 7$ **b.** $m\angle 5$ **c.** $m\angle 6$

Solution

a. $\angle 7$ and $\angle 3$ are corresponding angles,
so $m\angle 7 = m\angle 3$. So $m\angle 7 = 106°$.

b. $\angle 5$ and $\angle 7$ are vertical angles, so $m\angle 5 = m\angle 7$. So $m\angle 5 = 106°$.

c. $\angle 6$ and $\angle 5$ are supplementary angles, so $m\angle 6 + m\angle 5 = 180°$.
So $m\angle 6 = 180° - 106° = 74°$.