TOPIC 3-3: PROVING LINES PARALLEL

Determine whether lines _p_ and _q_ are parallel based on the given information. Justify your answer.

1. **m∠1 = 110° and m∠5 = 110° _____**

    Why? _____

2. **m∠1 = 110° and m∠7 = 80° _____**

    Why? _____

3. **m∠3 = 80° and m∠6 = 100° _____**

    Why? _____

4. **m∠4 = 70° and m∠6 = 80° _____**

    Why? _____
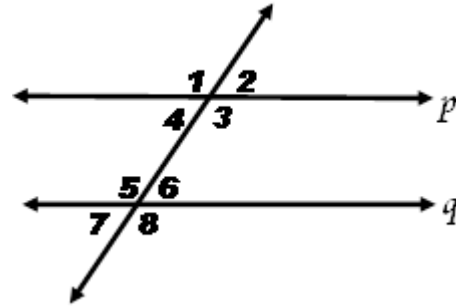
5. **If m∠4 = (20x + 3)° and m∠6 = (9x + 3)°, find the value of 'x' that proves the lines are parallel. Then find the m∠4.**

Type of angle pair _____

X = _____

m∠4 = _____
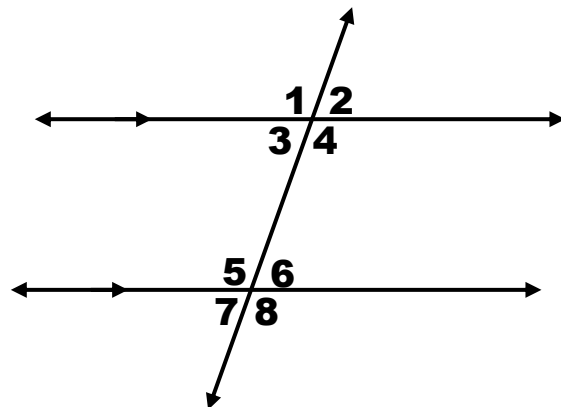
6. If m∠1 = (7x − 3)° and m∠5 = (8x − 19)°, find the value of 'x' that proves the lines are parallel. Then find the m∠5.

Type of angle pair _____
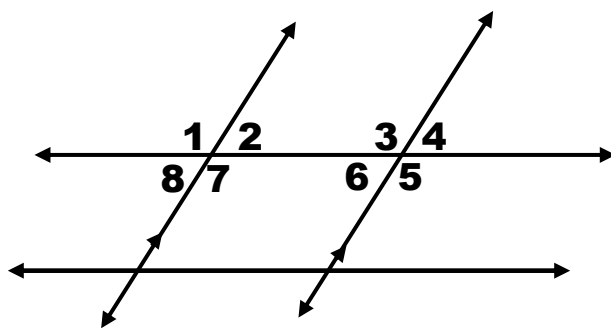
X = _____

m∠5 = _____

7. Find the values of *x, y,* and *z* in the figure below to ensure *m* ∥ *n* and *p* ∥ *q*. Name each type of angle pair you used to solve each problem and justify by theorem.
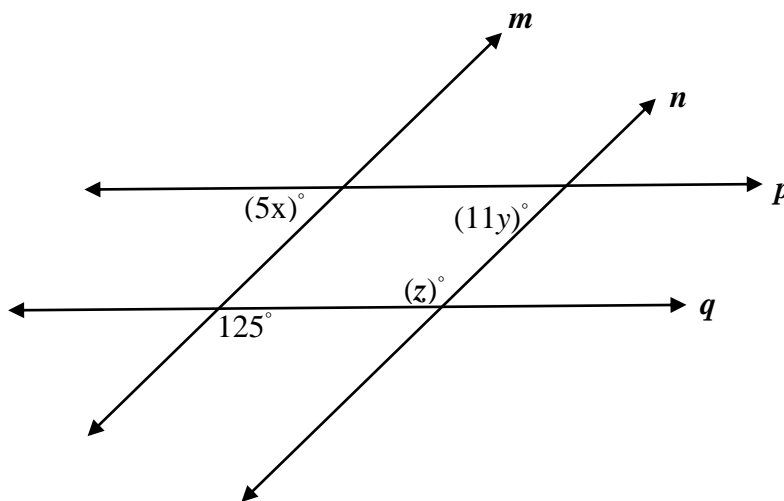
Find *x*-value	Find *y*-value	Find *z*-value
Type of Angle Pair	**Type of Angle Pair**	**Type of Angle Pair**