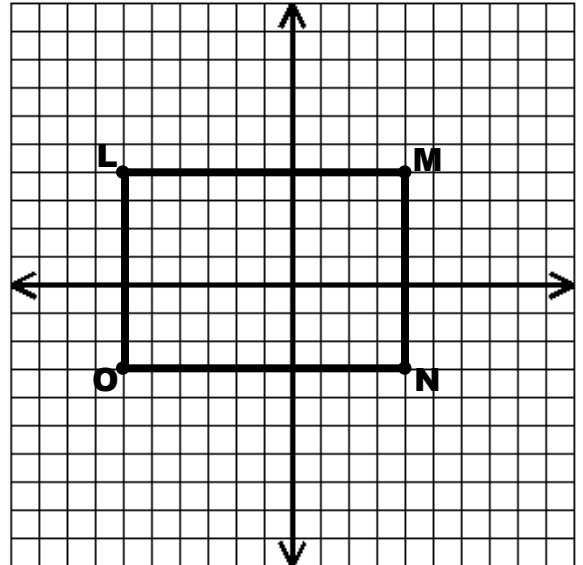## TOPIC 10-2: RECTANGLES

Because a rectangle is a special type of parallelogram, it has all of the properties of a parallelogram. However, the diagonals of a rectangle have an additional special relationship.
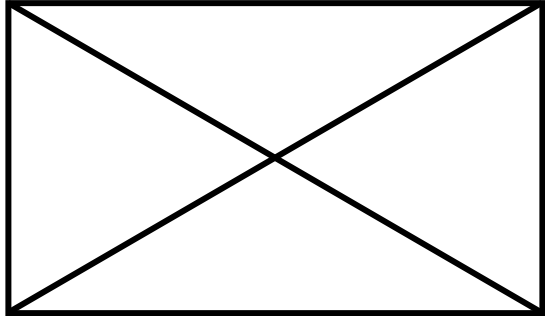
Name the diagonals of rectangle

LMNO: _____

Find the length of each diagonal:

Thus, we can say that if a parallelogram is a rectangle, then its diagonals are _____.

So rectangles have seven properties…

Properties:	Picture:
1. Opposite sides are _____.	
2. Opposite sides _____.	
3. Opposite angles _____.	
4. Consecutive angles are _____.	
5. Diagonals _____ each other.	
6. It has four _____ angles.	
7. Diagonals are _____.	

EXAMPLE 1 Quadrilateral ABCD is a rectangle. AC = 4x – 13 and DP = x + 7. Find AC.
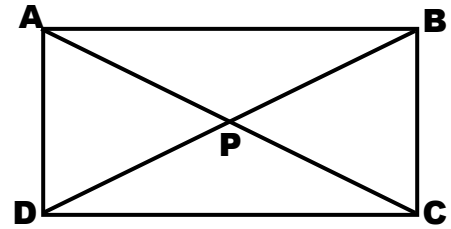
EXAMPLE 2   Use the rectangle KLMN and the given information to find the following.

m∠1 = 70°

m∠2 = _____   m∠3 = _____

m∠4 = _____   m∠5 = _____

m∠6 = _____   m∠7 = _____

m∠8 = _____   m∠9 = _____

m∠10 = _____
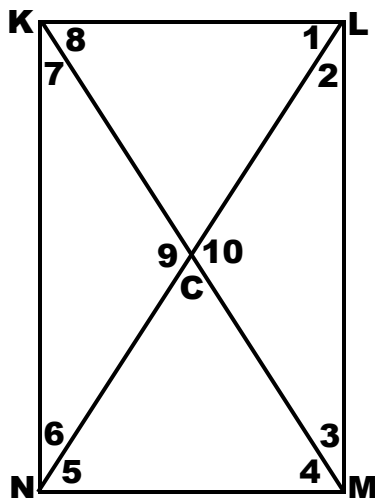
EXAMPLE 3   Quadrilateral RSTU is a rectangle. If m∠RSU = (3x-5)° and m∠UST = (4x+4)°, find m∠RSU.
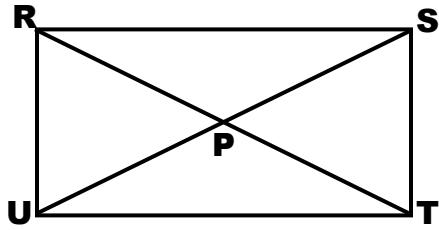
EXAMPLE 4 Use the figure below to answer the following.

A) Find N to form rectangle LMNO.

B) Find the intersection of OM and LN.