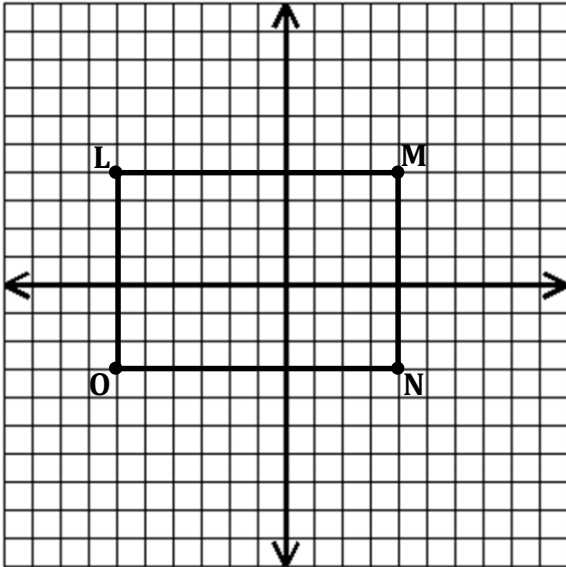# NOTES 7.4: RECTANGLES

Objective:_____

_____

RECTANGLE:

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.
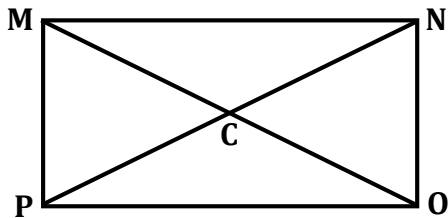
Name the diagonals of rectangle LMNO:

_____

Find the lengths of these diagonals:
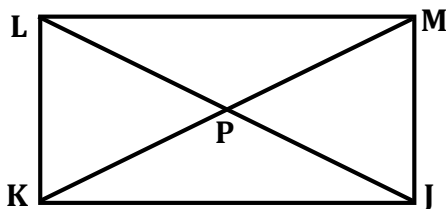
$\overline{OM}$: $\overline{LN}$:

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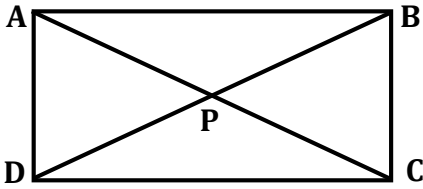

EXAMPLE 1: Quadrilateral MNOP is a rectangle. $MO = 2x - 8$ and $NP = 23$, find the value of 'x'.
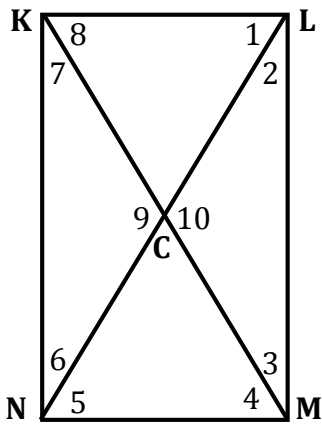

EXAMPLE 2: Quadrilateral JKLM is a rectangle. $LP = 3x + 7$ and $MK = 26$, find the value of 'x'.

EXAMPLE 3: Quadrilateral ABCD is a rectangle. $AC = 4x - 13$ and $DP = x + 7$.
Find the value of 'x'.

A ▭ B
P
D ▭ C

EXAMPLE 4: Use the rectangle KLMN and the given information to find the following.

K 8 7 1 2 L
9 10 C
6 3
N 5 4 M

$m\angle 1 = 70°$ $m\angle 6 =$ _____

$m\angle 2 =$ _____ $m\angle 7 = 20°$

$m\angle 3 =$ _____ $m\angle 8 =$ _____

$m\angle 4 =$ _____ $m\angle 9 =$ _____

$m\angle 5 =$ _____ $m\angle 10 =$ _____

Let's summarize…
A rectangle has the five properties of a parallelogram and two additional properties.
They are:

1)_____

2)_____

3)_____

4)_____

5)_____

6)_____

7)_____