

Lesson 6-4

Rectangles



You will recognize and apply properties of rectangles

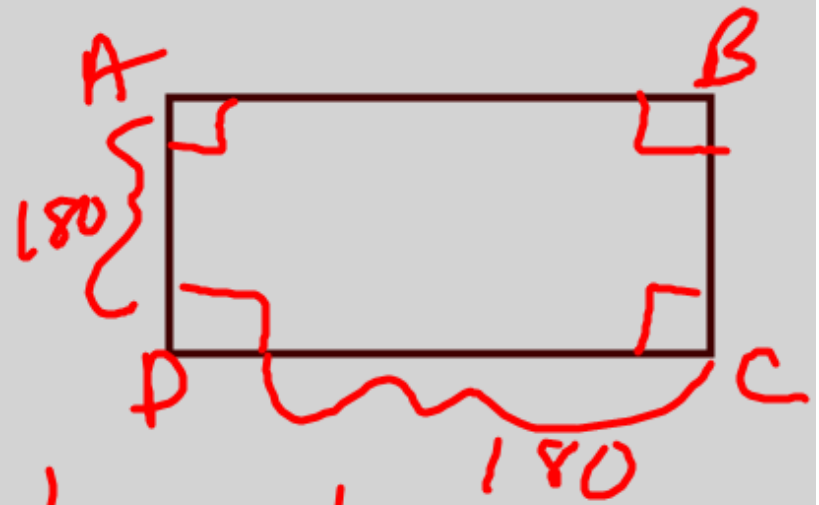
You will determine whether parallelograms are rectangles.

Rectangle: quadrilateral with 4 right angles



Rectangle Properties

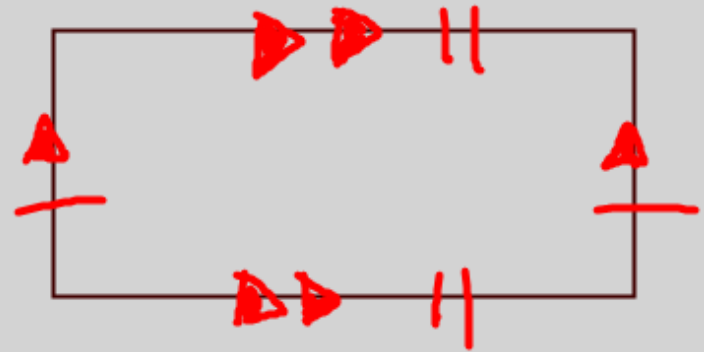
Opposite \angle 's are \cong



Consecutive \angle 's are supplementary

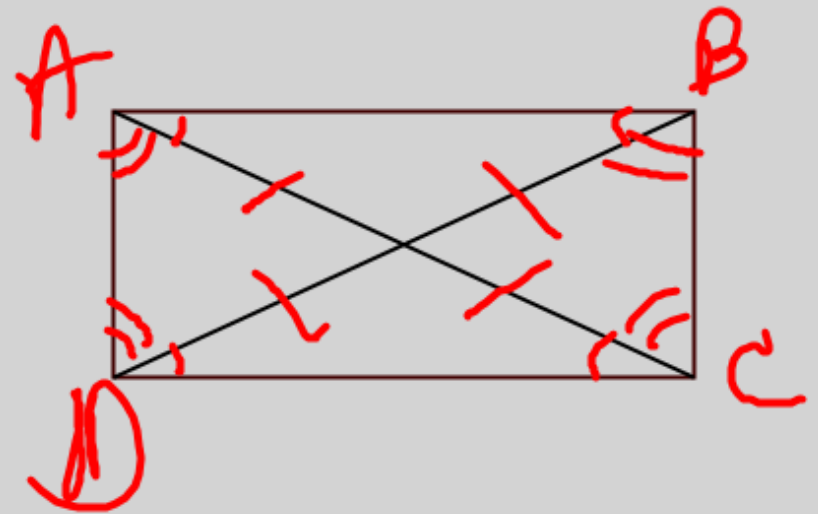
Opposite sides are

// & ≅



Diagonals are ≅ &
bisect each other

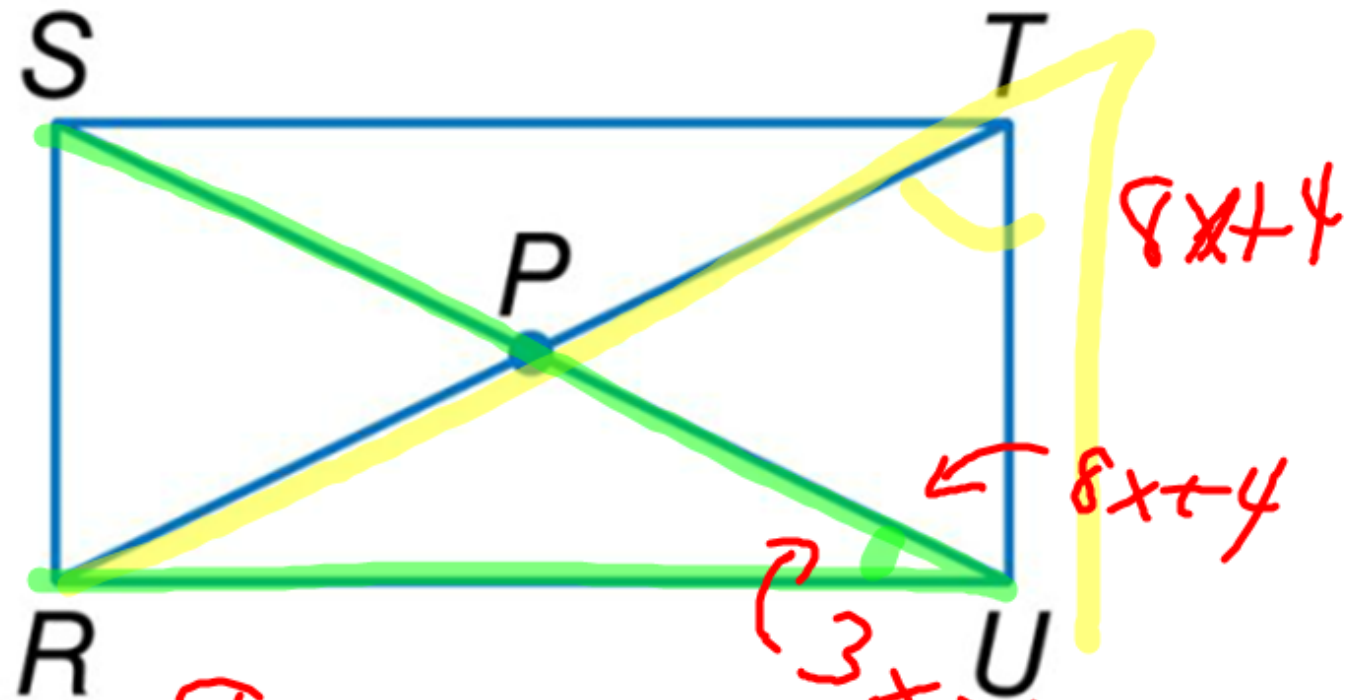
$$\overline{AC} \cong \overline{DB}$$



A Parallelogram is a rectangle iff
the diagonals are congruent

if
and
only
if

Quadrilateral $RSTU$ is a rectangle. If $m\angle RTU = 8x + 4$ and $m\angle SUR = 3x - 2$, find x .

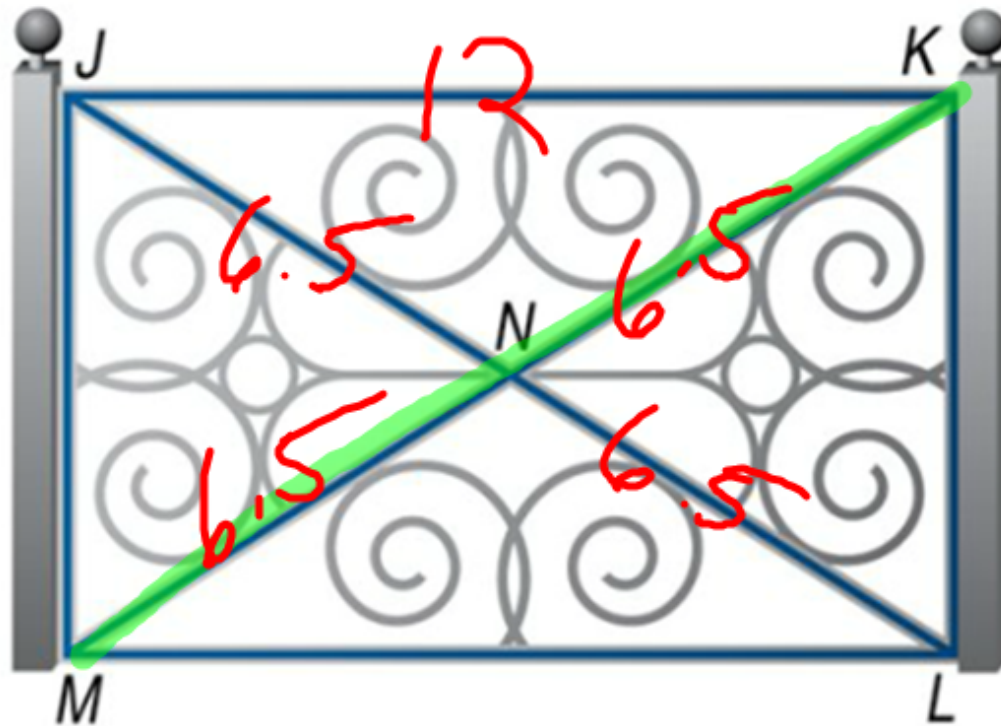


$$\underline{8x + 4} + \underline{3x - 2} = 90$$

$$\underline{11x + 2} = 90$$

$$\underline{\quad\quad\quad} \underline{-2} \quad \underline{-2} \\ \underline{11x} = 88 \quad \textcircled{x = 8}$$

CONSTRUCTION A rectangular garden gate is reinforced with diagonal braces to prevent it from sagging. If $JK = 12$ feet, and $LN = 6.5$ feet, find KM .



13

Find the measure of each angle

3) Rectangle IJKL

$$m\angle 1 = \underline{80}^\circ$$

$$m\angle 6 = \underline{50}^\circ$$

$$m\angle 2 = \underline{5}^\circ$$

$$m\angle 7 = \underline{80}^\circ$$

$$m\angle 3 = \underline{100}^\circ$$

$$m\angle 8 = \underline{40}^\circ$$

$$m\angle 4 = \underline{40}^\circ$$

$$m\angle 9 = \underline{100}^\circ$$

$$m\angle 5 = \underline{40}^\circ$$

$$m\angle 10 = \underline{40}^\circ$$

$$m\angle 11 = \underline{40}^\circ$$

