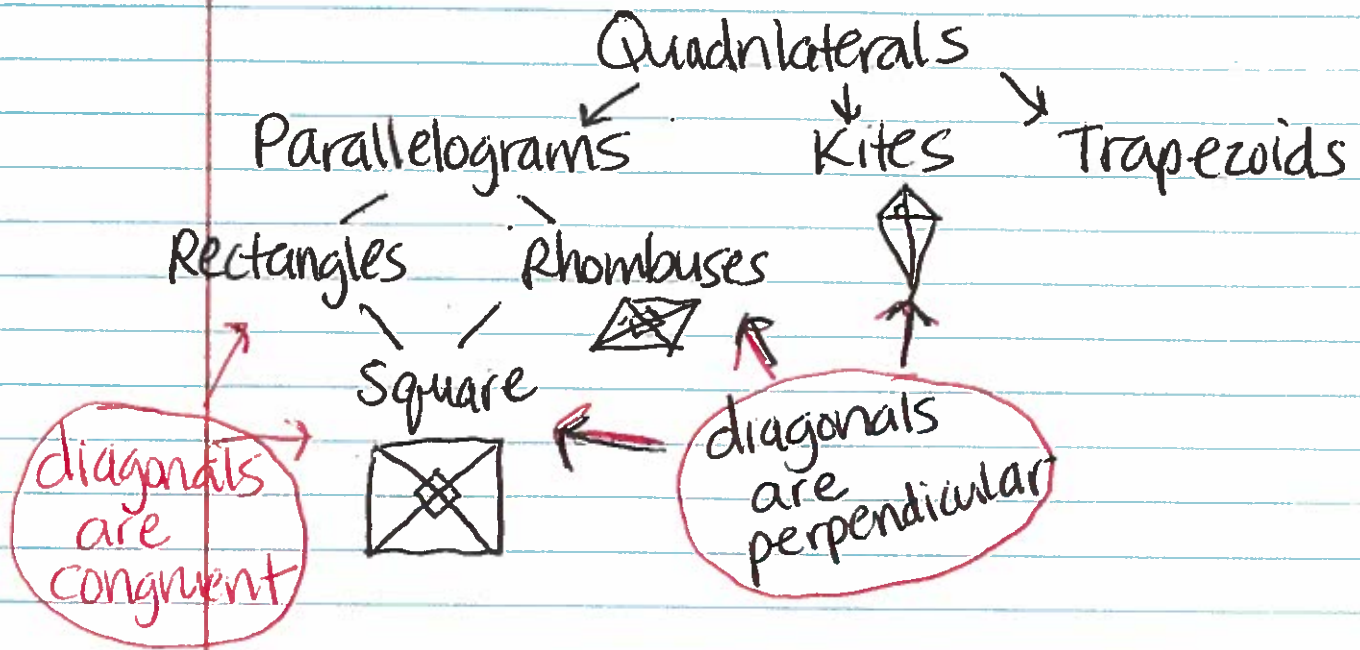
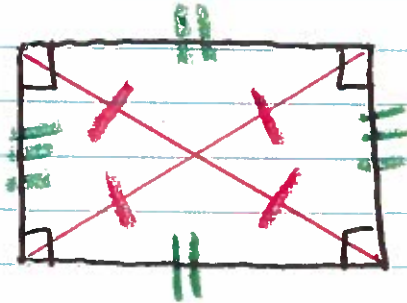


Day 85

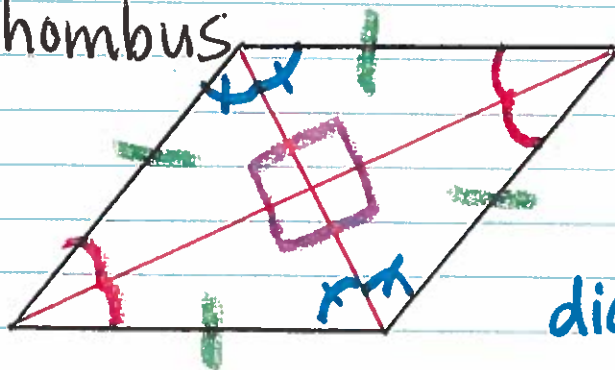
6.4: Special Parallelograms



Rectangle:
all \angle 's = 90°



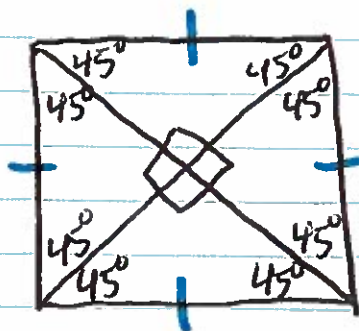
Rhombus



all sides \cong
diagonals \perp

diagonals bisect the \angle 's

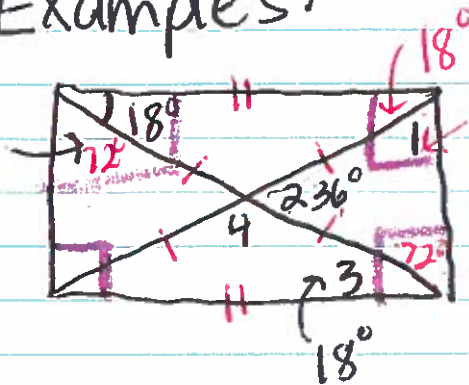
Square



Examples:

①

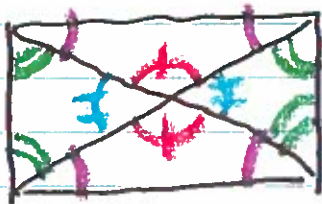
$$\begin{array}{r} 90 \\ -18 \\ \hline 72^\circ \end{array}$$



$$\begin{aligned} \angle 1 &= 72^\circ \\ \angle 3 &= 18^\circ \end{aligned}$$

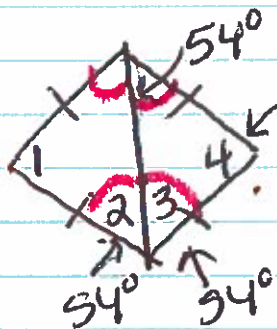
$$\angle 2 = 180 - 72 - 72 = 36^\circ$$

$$\angle 4 = 180 - 36 = 144^\circ$$



Rectangle

②



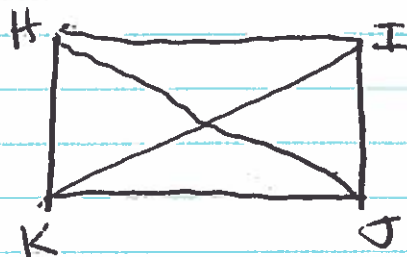
$$\begin{aligned} 72^\circ &= m\angle 4 \\ 72^\circ &= m\angle 1 \end{aligned}$$

$$m\angle 2 = m\angle 3 = 54^\circ$$

③

HJKI is a rectangle. Find the value of x and the length of each diagonal.

$$HJ = x, IK = 2x - 7$$



$HJ = 7$
$IK = 7$

The diagonals are \cong .

$$HJ = IK$$

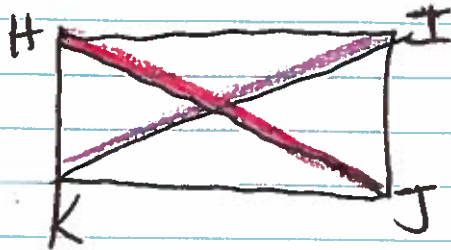
$$x = 2x - 7$$

$$\begin{array}{r} x \\ -2x \\ \hline -x \\ -x \\ \hline 0 = -7 \end{array}$$

$x = 7$

4 $HJ = 3x + 5$ $IK = 5x - 9$

Find x + each diagonal.



$$\begin{array}{r} 3x + 5 = 5x - 9 \\ -3x + 9 - 3x + 9 \end{array}$$

$$\frac{14}{2} = \frac{2x}{2}$$

$$\boxed{7 = x}$$

$$\begin{array}{r} HJ = 3 \cdot 7 + 5 \\ 21 + 5 \\ HJ = 26 \end{array}$$

$$\begin{array}{r} IK = 5 \cdot 7 - 9 \\ 35 - 9 \\ \boxed{IK = 26} \end{array}$$

* p. 332-333 (1-12, 16-18, 24,
41-46, 64, 65)

