

\overline{UV} is an angle bisector

$$\angle 2 = 2x + 9$$

$$\angle SUT = 7x - 6$$

$$\frac{1}{2} \angle SUT = \angle 2$$

$$\angle SUT = 2(\angle 2)$$

$$7x - 6 = 2(2x + 9)$$

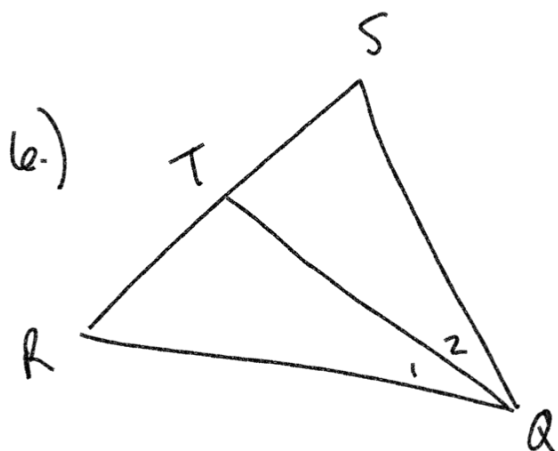
$$3x - 6 = 18$$

$$\begin{array}{r} +6 \\ 3x = 24 \\ \hline x = 8 \end{array}$$

$$7x - 6 = 4x + 18$$

$$-4x$$

$$-4x$$



\overline{TR} is an angle bisector

$$\angle 1 = 7x - 7$$

$$\angle 2 = 5x + 13$$

$$\angle 1 = \angle 2$$

$$7x - 7 = 5x + 13$$

$$+7$$

$$+7$$

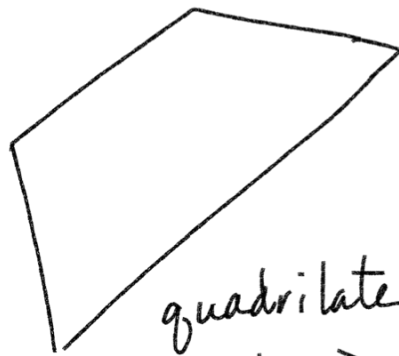
$$\frac{2x}{2} = \frac{20}{2}$$

$$x = 10$$

$$7x = 5x + 20$$

$$-5x \quad -5x$$

4 sides



quadrilateral

0 parallel sides

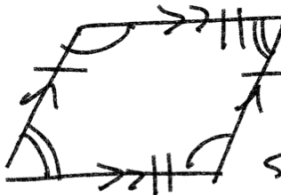
1 parallel side



kite

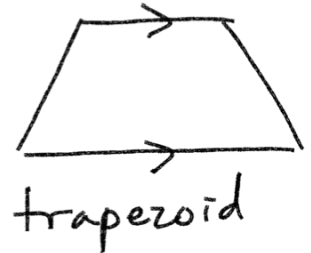
adjacent sides equal

2 parallel sides

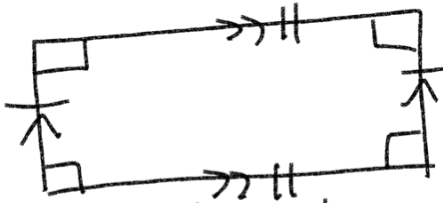


opposite sides & angles congruent

parallelogram

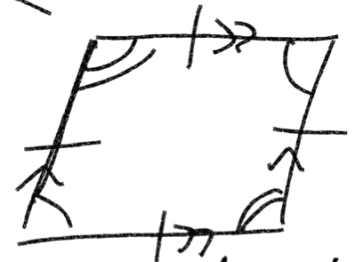


trapezoid



4 equal angle

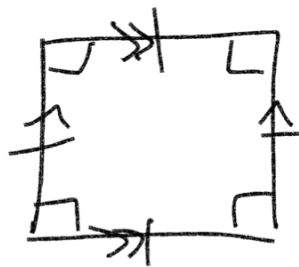
Rectangle



4 equal sides

Rhombus

4 equal angles



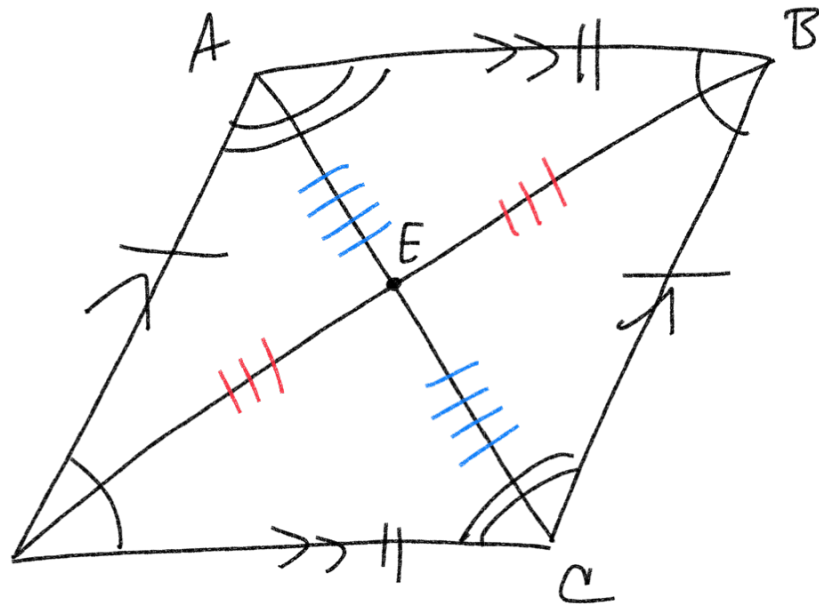
square

4 equal sides

Parallelogram



Diagonals are not equal -
but they bisect each other



$$\overline{DE} \cong \overline{EB} \quad \overline{AE} \cong \overline{EC}$$

Alternate Interior
Angles

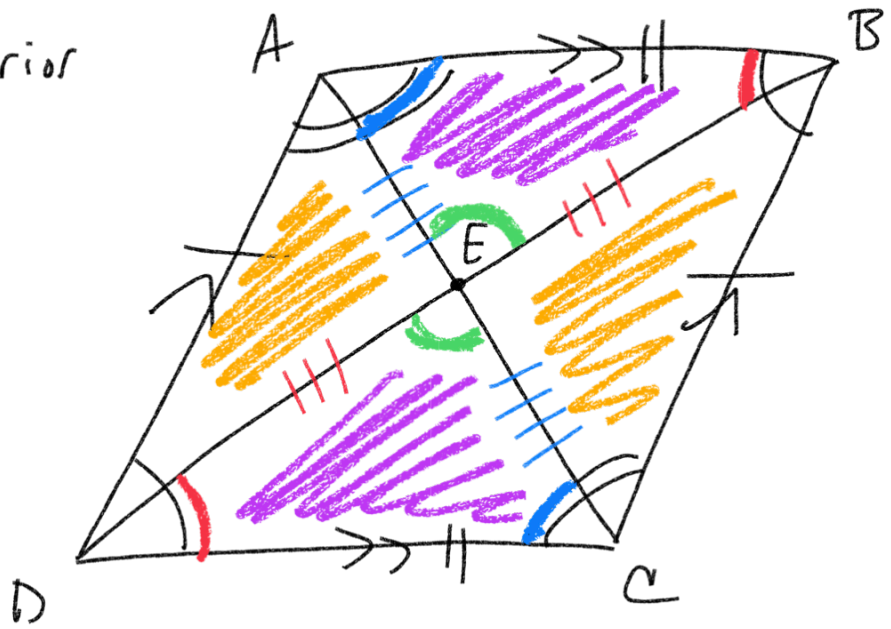
$$\angle ABE \cong \angle CDE$$

$$\angle BAE \cong \angle DCE$$

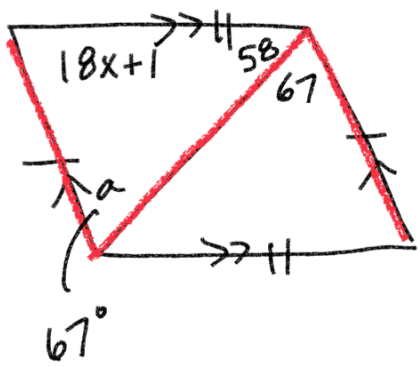
Vertical Angles

$$\angle AEB \cong \angle CED$$

$$\triangle AEB \cong \triangle CED$$



2 pairs of congruent
triangle



$a = 67^\circ$ Alternate Interior Angles

$$180 = 67 + 58 + 18x + 1$$

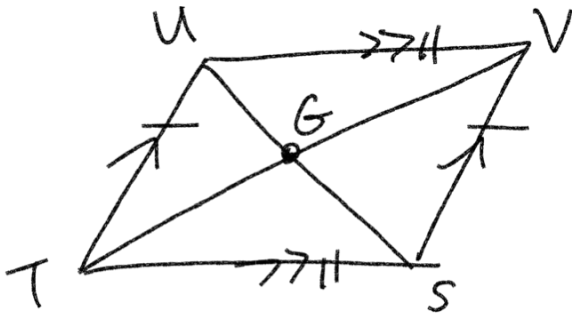
$$180 = 18x + 126$$

$$\begin{array}{r} -126 \\ 54 = 18x \end{array}$$

$$\frac{54}{18} = \frac{18x}{18}$$

$$\boxed{x = 3}$$

1.)



$$\boxed{x = 10}$$

$$\overline{GV} = 9$$

$$\overline{TV} = 2x - 2$$

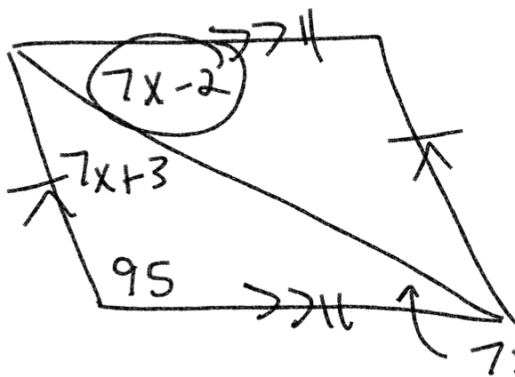
$$\overline{TV} = 2\overline{GV}$$

$$2x - 2 = 2(9)$$

$$2x - 2 = 18$$

$$\frac{2x}{2} = \frac{20}{2}$$

2.)



Alternate Int. Angles

$$180 = 7x - 2 + 7x + 3 + 95$$

$$180 = 14x + 96$$

$$\begin{array}{r} -96 \\ 84 = 14x \end{array}$$

$$\boxed{x = 6}$$

