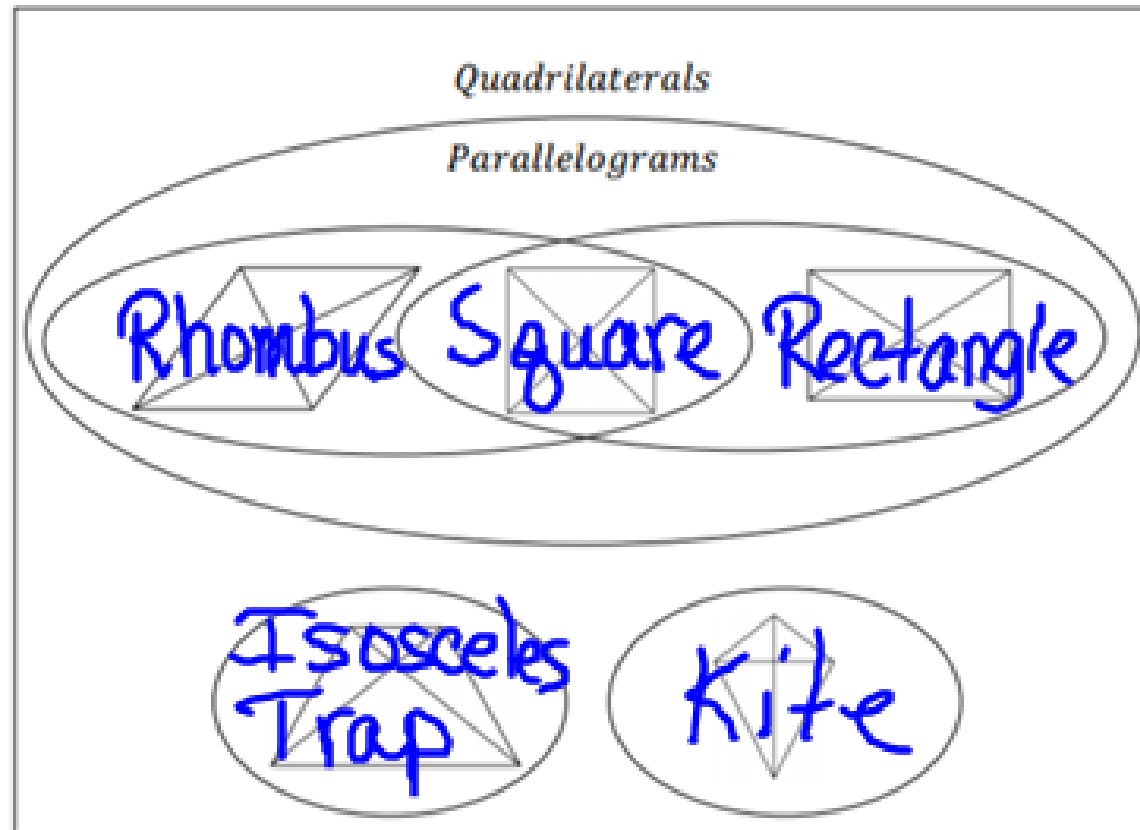


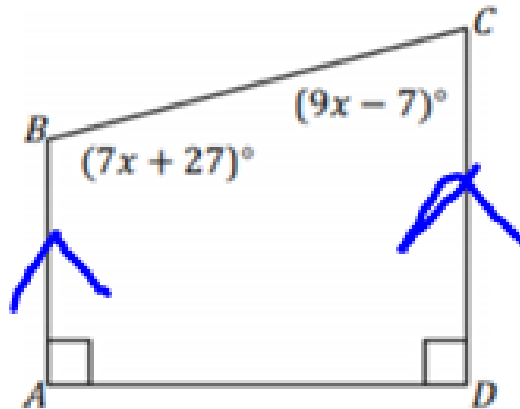
Name the specific quadrilaterals in the Venn Diagram below.



Characteristics of Quadrilaterals				
Polygon	Opposite Sides	Adjacent Sides	Angles	Diagonals
Parallelogram	$\parallel \text{ \& } \cong$		opp \cong adj 180°	bisect ea other
Rhombus	$\parallel \text{ \& } \cong$	\cong	opp \cong adj 180°	bisect opp \angle 's bisect ea other
Square	$\parallel \text{ \& } \cong$	$\perp \cong$	all \cong opp \cong adj 180° all rt \angle 's	bisect opp \angle 's bisect ea other
Rectangle	$\parallel \text{ \& } \cong$	\perp	all rt \angle 's opp \cong adj 180°	\cong bisect ea other
Isosceles Trapezoid	Legs \cong \perp PR \parallel		base \angle 's \cong 2 PR adj Supp	\cong
Kite		\cong	shrt dist \angle 's \cong larger bisects smaller	\perp

Find the measure of each interior angle.

$$\begin{aligned}\angle A \text{ \& } \angle D &= 90^\circ \\ m\angle B &= 97^\circ \\ m\angle C &= 83^\circ\end{aligned}$$



$$\begin{aligned}7x + 27 + 9x - 7 &= 180 \\ \hline 16x + 20 &= 180 \\ -20 \quad -20 & \\ \hline 16x &= 160 \\ x &= 10\end{aligned}$$

Classify the following descriptive statements as quadrilaterals or non-quadrilaterals. If the statements describe a non-quadrilateral, explain why.

- a. A figure with $m\angle a = 91$, $m\angle b = 72$, $m\angle c = 86$, and $m\angle d = 93$.

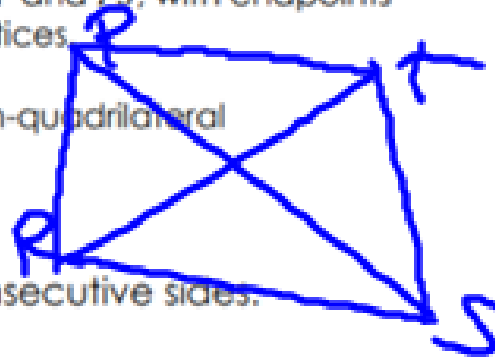
$$91 + 72 + 86 + 93 = 342$$

- Quadrilateral Non-quadrilateral

$$342 \neq 360$$

- b. A figure with two diagonals, \overline{RT} and \overline{PS} , with endpoints that are two nonadjacent vertices.

- Quadrilateral Non-quadrilateral
- $\angle P$ & $\angle R$ are adj



- c. A figure with only three consecutive sides.

- Quadrilateral Non-quadrilateral

4 need

2. Determine the measure of each interior angle below.

- a. Parallelogram $TUVW$ with $m\angle T = 10x$ and $\angle U = 20x$

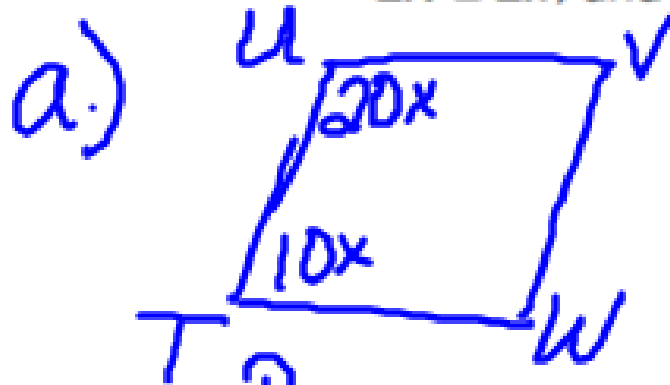
- b. Isosceles trapezoid $MNPQ$ with $\angle P \cong \angle Q$, $m\angle Q = 30x$, $\angle M \cong \angle N$, and $m\angle M = 20x$

2. Determine the measure of each interior angle below.

a. Parallelogram $TUVW$ with $m\angle T = 10x$ and $\angle U = 20x$

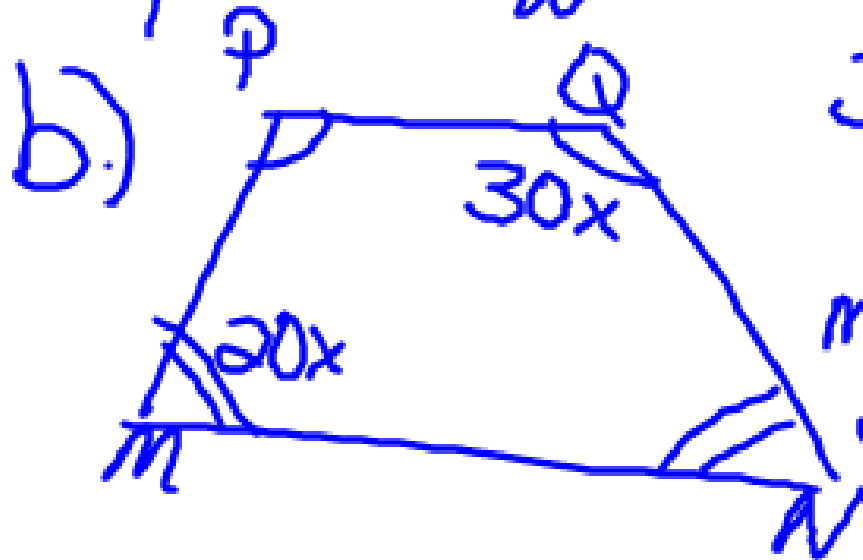
$$m\angle T = 60, m\angle U = 120$$

b. Isosceles trapezoid $MNPQ$ with $\angle P \cong \angle Q$, $m\angle Q = 30x$,
 $\angle M \cong \angle N$, and $m\angle M = 20x$



$$10x + 20x = 180$$

$$30x = 180 \quad x = 6$$



$$30x + 20x = 180$$

$$50x = 180$$

$$x = 3.6$$

$$m\angle P = m\angle Q = 108^\circ$$

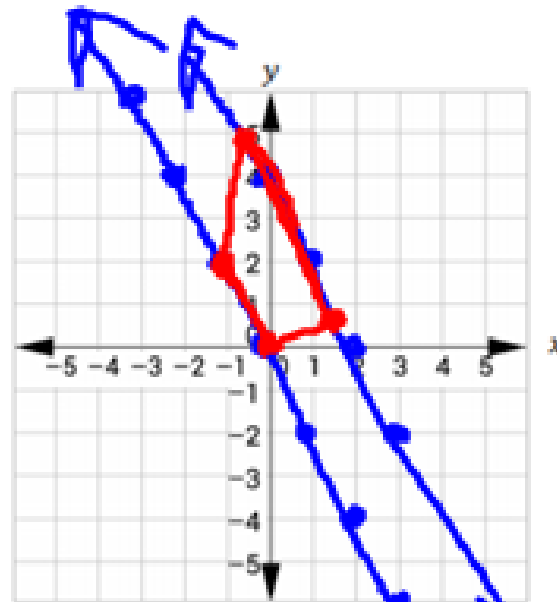
$$m\angle M = m\angle N = 72^\circ$$

The quadrilateral $ABCD$ has the following characteristics.

$$y = mx + b$$

\overline{AD} can be represented by the equation $y = -2x$ where $-1 \leq x \leq 0$.

\overline{BC} can be represented by the equation $y = -2x + 4$ where $-0.5 \leq x \leq 1.5$.

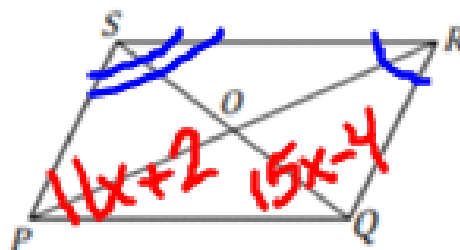


- On the coordinate plane above, graph the figure represented by the information given.
- Describe the type of quadrilateral represented above.

Trapezoid

2. Consider parallelogram $PQRS$ again.

If $m\angle SPQ = 11x + 2$ and
 $m\angle PQR = 15x - 4$, find $m\angle QRS$
and $m\angle RSP$.



$$11x + 2 + 15x - 4 = 180$$

$$\begin{array}{r} 26x - 2 = 180 \\ + 2 \\ \hline 26x = 182 \\ x = 7 \end{array}$$

$$\begin{array}{r} 26x = 182 \\ x = 7 \end{array}$$

$$11(7) + 2 = 79^\circ = m\angle RSP$$

$$15(7) - 4 = 101^\circ = m\angle QRS$$