

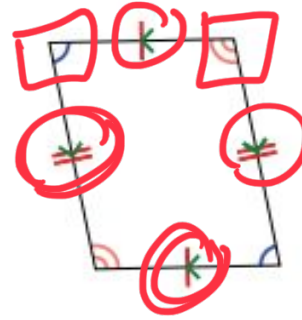
Geometry Chapter 6 Pre-Test

1.) (2.5 pts each, 5 pts total) Name each of the following shapes. Place a check beside each category of shape for which it qualifies.

a) Name of Shape: parallelogram

This shape also fall under the category of:

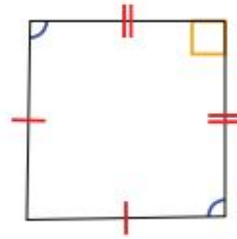
- kite
- parallelogram
- quadrilateral
- rectangle
- rhombus
- square
- trapezoid



b) Name of Shape:

This shape also fall under the category of:

- kite
- parallelogram
- quadrilateral
- rectangle
- rhombus
- square
- trapezoid



2.) (5 pts total) Determine the most exact name for the quadrilateral with the given vertices.

$(-3, -2), (-3, 1), (0, 2), (0, -1)$

may use distance formula

$(-3, 1) (0, 2)$

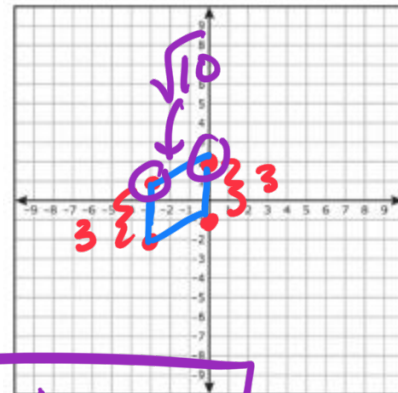
$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$\sqrt{(-3 - 0)^2 + (1 - 2)^2}$$

$$\sqrt{(-3)^2 + (-1)^2}$$

$$\sqrt{9 + 1} = \sqrt{10}$$

parallelogram



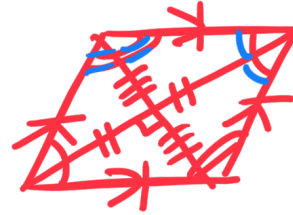
3.) (2.5 pts each, 5 pts total) Draw out the indicated shape. Include congruent sides, congruent angles, and congruent diagonal lengths where necessary. Indicate all appropriate 90° angles and parallel lines as well.

a) rhombus

Draw shape

- angles
- sides congruences
- parallels

- Diagonals
- Diagonal bisectors

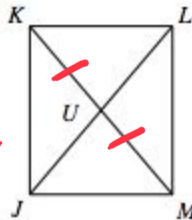


4.) (5 pts each, 15 pts total) Find the value of x in each parallelogram.

a)

$$KU = 3x + 3$$

$$UM = 4x - 4$$



parallelograms have diagonal bisectors

$$\overline{KU} = \overline{UM} \quad +3$$

$$\downarrow \quad \downarrow$$

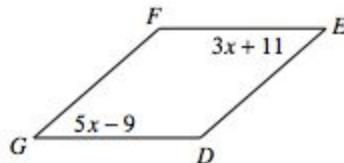
$$3x + 3 = 4x - 4$$

$$\begin{array}{r} -3x \quad -3x \quad +0.5 \\ 3 = x - 4 \end{array}$$

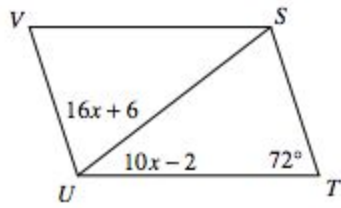
$$\begin{array}{r} +4 \quad +4 \quad +0.5 \\ 7 = x \end{array}$$

$7 = x$

b)



c)



5.) (5 pts each, 15 pts total) Use your knowledge of the properties of rectangles to answer each of the following.

a) Find $\angle 1$, $\angle 2$, and $\angle 3$.

$\angle 1 =$

$\angle 2 =$

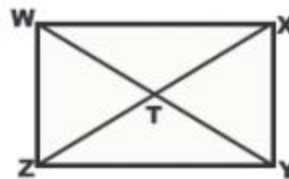
$\angle 3 =$



b) $WY = 4x + 10$

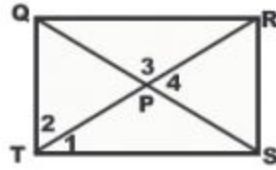
$TX = 3x - 2$

Find x .



- c) $\angle 1 = 3x + 4$
 $\angle 2 = 2x + 6$
 $\angle 3 = 7x - 2$

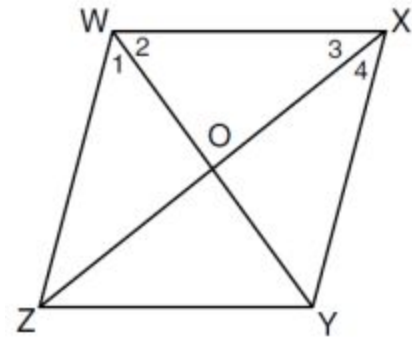
Find x.



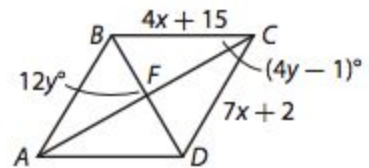
- 6.) (5 pts each, 10 pts total) Use your knowledge of the properties of rhombi to answer each of the following.

- a) Find x.

$WO = 4x + 8$
 $OX = 3x + 12$
 $OY = 5x - 3$

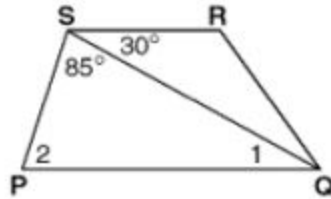


- b) Find x and y.



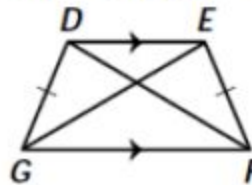
7.) (5 pts, 10 pts total) Use your knowledge of the properties of trapezoids to answer each of the following.

a) Find $\angle 1$ & $\angle 2$



b) Find x .

$$DF = 4x, EG = 2x + 16$$



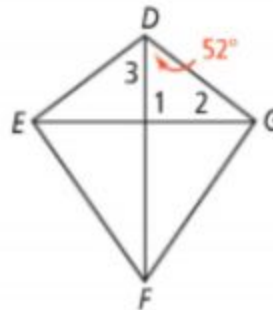
8.) (5 pts, 10 pts total) Use your knowledge of the properties of kites to answer each of the following.

a) Find the indicated angles.

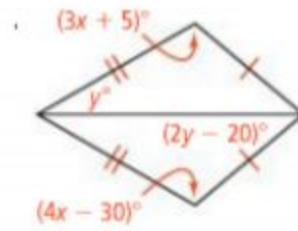
$$\angle 1 =$$

$$\angle 2 =$$

$$\angle 3 =$$

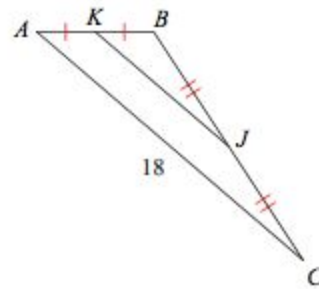


b) Find x and y.

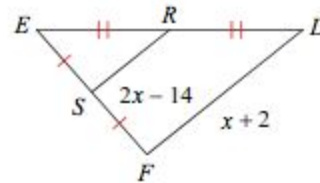


9.) (5 pts each, 10 pts total) Find the length of variable indicated.

a) Find KJ



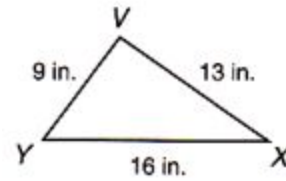
b) Find x.



10.) (5 pts) Is the point $(2, -2)$ along the line forming a perpendicular bisector of the line segment AB if point A is $(-2, 3)$ and point B is $(6, -7)$? Show your work.

11.) (2.5 pts each, 5 pts total) Use your knowledge of triangles to answer each of the following.

- a) Order the angles within the triangle from least to greatest:



- b) Can a triangle with the lengths 6 cm, 7 cm, and 14 cm exist? Clearly state why or why not.

12.) (5 pts) Label each of the following.

