

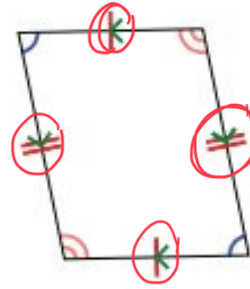
Geometry Chapter 6 Pre-Test

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:

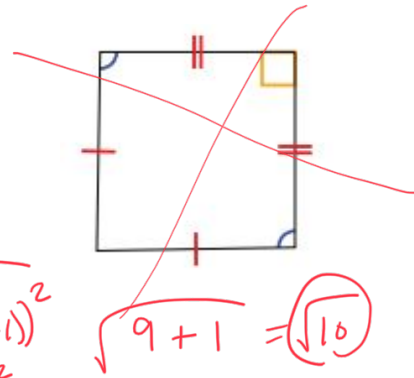
- kite *adjacent congruent sides*
- parallelogram
- quadrilateral
- rectangle
- rhombus
- square
- trapezoid



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)*

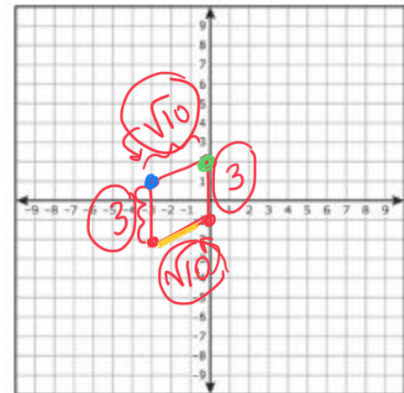
*Parallelogram*

Distance Formula

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

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

$$\sqrt{(-3)^2 + (-1)^2} = \sqrt{9 + 1} = \sqrt{10}$$



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  $90^\circ$  angles and parallel lines as well.

a) rhombus



diagonals: perpendicular  
bisect.  
angle bisectors

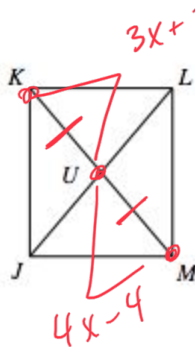
b) parallelogram

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

a)

$$KU = 3x + 3$$

$$UM = 4x - 4$$



↳ diagonal bisectors

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

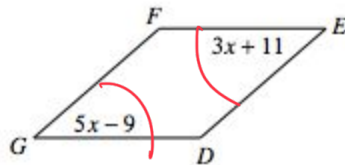
$$-3x \quad -3x$$

$$x - 4 = 3$$

$$+4 \quad +4$$

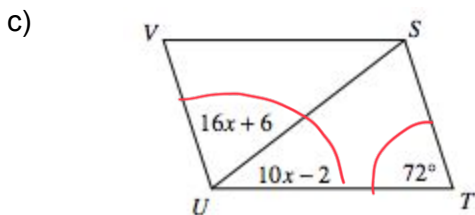
$$\boxed{x = 7}$$

b)



parallelogram  
opposite angles are congruent

For any quadrilateral adjacent angles are supplemental



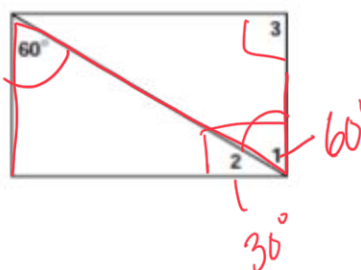
5.) (5 pts each, 15 pts total) Use your knowledge of the properties of rectangles to answer each of the following.

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

$\angle 1 = 60^\circ$

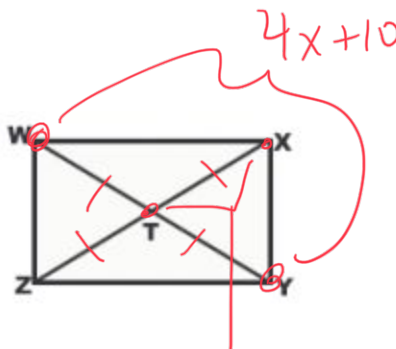
$\angle 2 = 30^\circ$

$\angle 3 = 90^\circ$



b)  $WY = 4x + 10$   
 $TX = 3x - 2$

Find  $x$ .



$$2(3x - 2) = 4x + 10$$

$$6x - 4 = 4x + 10$$

$$-4x \quad -4x$$

$$2x - 4 = 10$$

$$+4 \quad +4$$

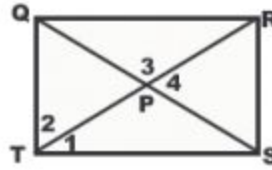
$$2x = 14$$

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

$$x = 7$$

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

Find x.



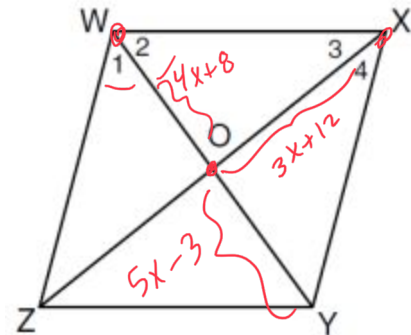
- 6.) (5 pts each, 10 pts total) Use your knowledge of the properties of rhombi to answer each of the following.

- a) Find x.

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

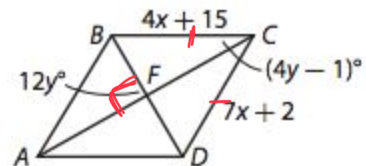
$WO \neq OX$   
 $OY \neq OX$   
 $WO = OY$   
 $4x + 8 = 3x + 12$   
 $-3x$   
 $x + 8 = 12$   
 $-8$

$x = 4$



- b) Find x and y.

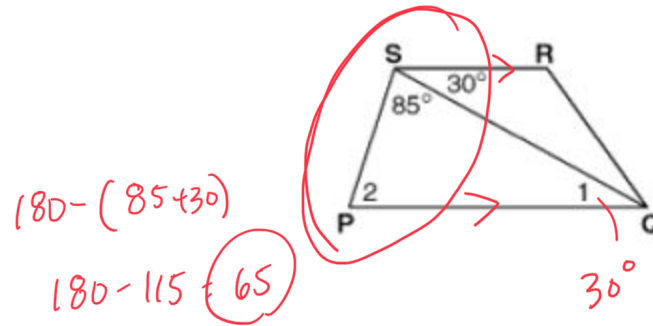
$4x + 15 = 7x + 2$   
 $-4x$   
 $15 = 3x + 2$   
 $-2$   
 $13 = 3x$   
 $\div 3$   
 $x = \frac{13}{3}$



$12y = 90$   
 $\div 12$   
 $y = 8.5$

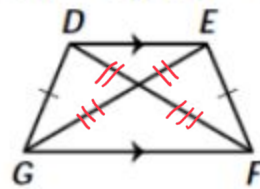
7.) (5 pts, 10 pts total) Use your knowledge of the properties of trapezoids to answer each of the following.

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



b) Find x.

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



$$DF = EG$$

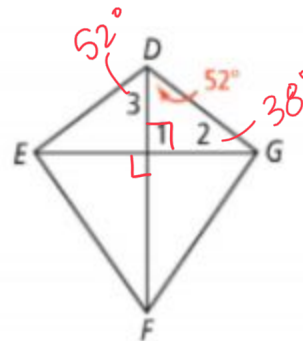
8.) (5 pts, 10 pts total) Use your knowledge of the properties of kites to answer each of the following.

a) Find the indicated angles.

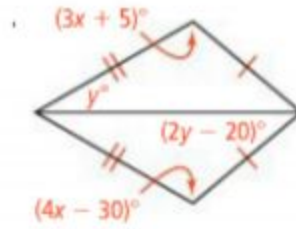
$$\angle 1 = 90^\circ$$

$$\angle 2 = 38^\circ$$

$$\angle 3 =$$

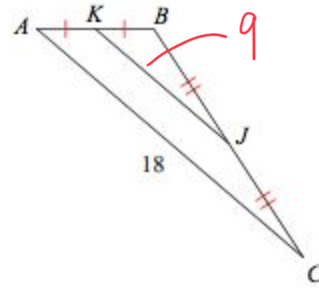


b) Find x and y.

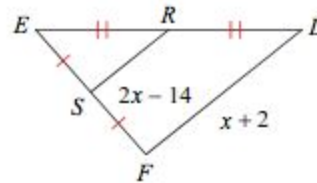


9.) (5 pts each, 10 pts total) Find the length of variable indicated.

a) Find KJ



b) Find x.



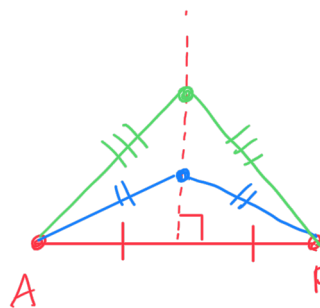
10.) (5 pts) Is the point  $(2, -2)$  along the line forming a perpendicular bisector of the line segment AB if point A is  $(-2, 3)$  and point B is  $(6, -7)$ ? Show your work.

Distance Formula

$$(2, -2) \rightarrow (-2, 3)$$

if same

$$(2, -2) \rightarrow (6, -7)$$



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:

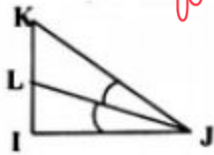


- b) Can a triangle with the lengths 6 cm, 7 cm, and 14 cm exist? Clearly state why or why not.

$6 + 7 > 14$   
 ~~$13 < 14$~~  not triangle

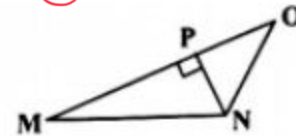
12.) (5 pts) Label each of the following.

(a)



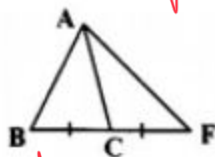
angle bisector

(b)



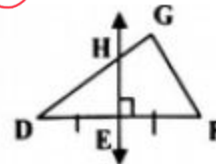
altitude/height

(c)



median

(d)



perpendicular bisector

HW  
 ch 5/6 Pre-Test  
 optimal HW 29  
 ch 5/6 Rev

Test due May 13<sup>th</sup>

Online HW/qa 28  
 due May 13<sup>th</sup>

HW/qa 27 May 1<sup>st</sup>