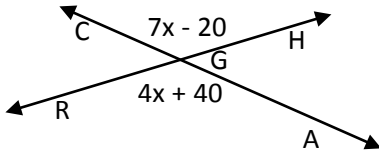


Name \_\_\_\_\_

### Quiz A

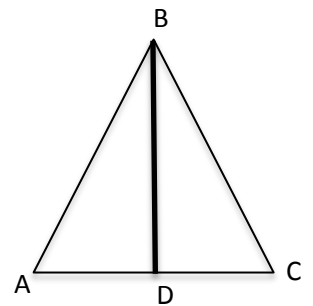
1. Draw a counterexample for the following statement:  
*If a quadrilateral has perpendicular diagonals, then it is a square.*

2. Solve for  $x$ , and find  $m\angle CGH = \underline{\hspace{2cm}}$ , and  $m\angle CGR = \underline{\hspace{2cm}}$ .

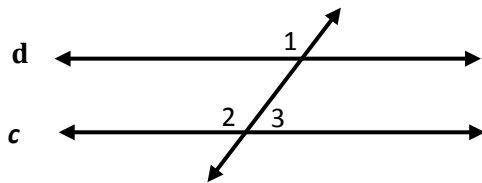


3. Draw two coplanar lines that are neither perpendicular nor parallel.

4. Given  $\overline{BD}$  is the perpendicular bisector of  $\overline{AC}$ , name all pairs of congruent parts.

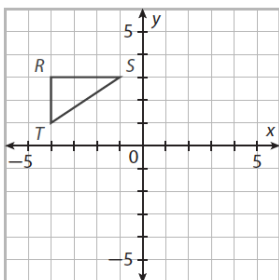


5. Give that  $d \parallel c$ ,  $m\angle 1 = 120^\circ$ . Find the measure of all other designated angles.



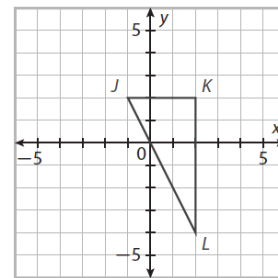
$m\angle 2 = \underline{\hspace{2cm}}^\circ$        $m\angle 3 = \underline{\hspace{2cm}}^\circ$

6. Apply the rule to the given pre-image:  
 $(x, y) \rightarrow (x + 6, y - 5)$



$R'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ ,  $S'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ ,  $T'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

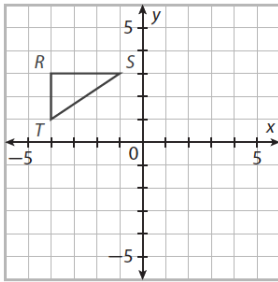
7. Rotate  $90^\circ$  counter clockwise about the origin.



$J'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ ,  $K'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ ,  $L'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

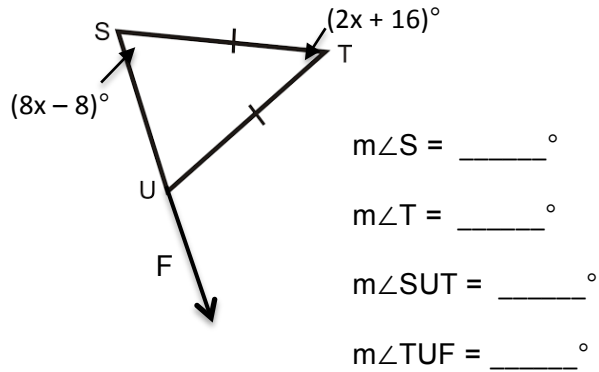
8. True or False: Any figure can be mapped onto a congruent figures through a sequence of rigid motion.

9. Reflect over  $x = -3$ .

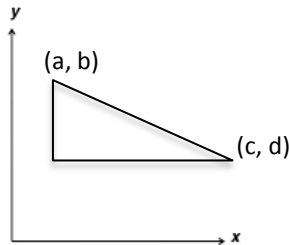


$R'( \quad , \quad ), S'( \quad , \quad ), T'( \quad , \quad )$

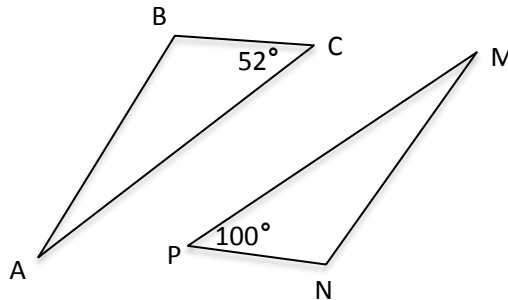
10. Find the four designated angles.



11. Find the coordinates of the third vertex.



12.  $\triangle ABC \cong \triangle MNP$ . Find  $m\angle B = \underline{\hspace{2cm}}^\circ$

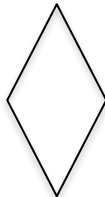


13. Mark the diagram according to the DEFINITION of the given name.

a) Parallelogram



b) Rhombus



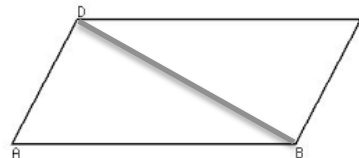
c) Rectangle



d) Square

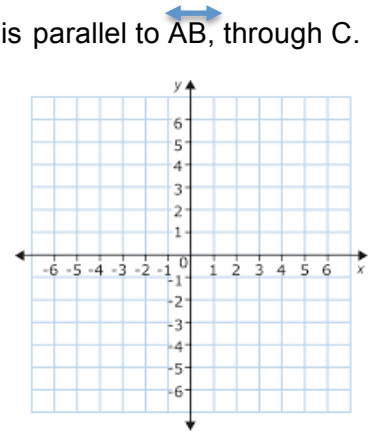


14. G: ABCD is a parallelogram  
P:  $\angle A \cong \angle C$



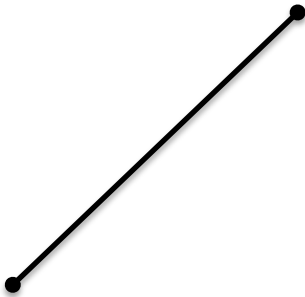
Statements	Reasons
1. ABCD is a parallelogram	1.
2. $\overline{AB} \parallel \overline{CD}, \overline{AD} \parallel \overline{CB}$	2.
3. $\angle ABD \cong \angle CDB, \angle ADB \cong \angle CBD$	3.
4. $\overline{BD} \cong \overline{DB}$	4.
5. $\triangle ABD \cong \triangle CDB$	5.
6. $\angle A \cong \angle C$	6.

15. Given A(-2, 1) B( 2, 3) and C( 4, -2), write the equation of the line that is parallel to  $\overleftrightarrow{AB}$ , through C. Verify by graphing both lines.

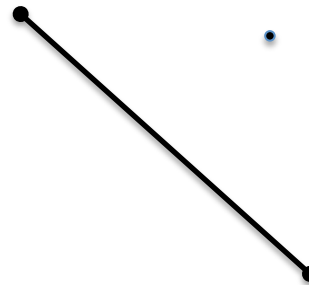


16-17) **Construct the following:**

16. Perpendicular bisector

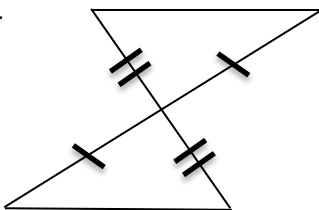


17. Parallel line through a point off the line

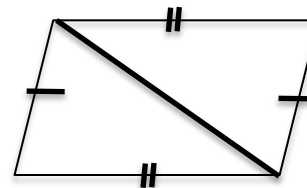


18-19) **Which triangle congruency theorem or postulate (SSS, SAS, ASA, AAS), may be used to prove that the triangles are congruent. (More than one may apply.) Justify your answer.**

18.



19.



20. Match the Geometric term on the left, with it's definition on the right.

- |            |   |
|------------|---|
| a) Angle   | i) The set of all points that are a fixed distance from a given point.                      |
| b) Segment | ii) A portion of a line that begins at an endpoint and extends infinitely in one direction. |
| c) Circle  | iii) Two rays that share a common endpoint.   |
| d) Ray     | iv) All points between and including two given points.                                      |

Name \_\_\_\_\_

### Quiz B

21. Miguel claims that *if coplanar lines form one right angle, then the other three angles are also right*. If you agree with Miguel, draw an instance. If you disagree draw a counterexample.

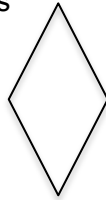
22. For each quadrilateral, draw the diagonals and state ALL the diagonal properties that apply (perpendicular, congruent, bisect each other).

a) Parallelogram



\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

b) Rhombus



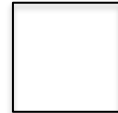
\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

c) Rectangle



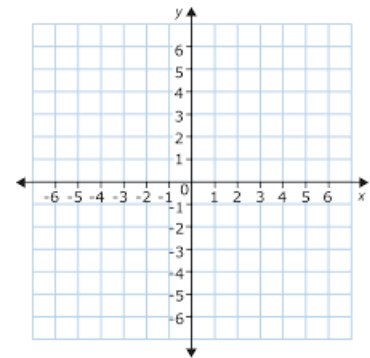
\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

d) Square



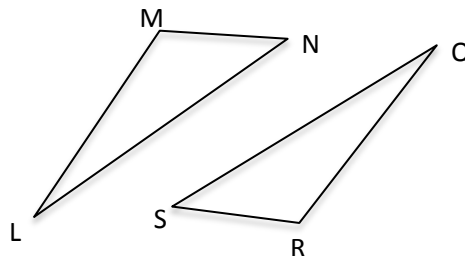
\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

23. Given A(-2, 1) B( 2, 3) and C( 4, -2), write the equation of the line that is perpendicular to  $\overleftrightarrow{AB}$ , through C. Verify by graphing both lines.



24. Given  $\angle M \cong \angle R$ . What other pairs of parts must be congruent to prove  $\triangle LMN \cong \triangle QRS$ , by...

- a) ASA, \_\_\_\_\_  $\cong$  \_\_\_\_\_
- b) SSS, \_\_\_\_\_  $\cong$  \_\_\_\_\_
- c) SAS, \_\_\_\_\_  $\cong$  \_\_\_\_\_

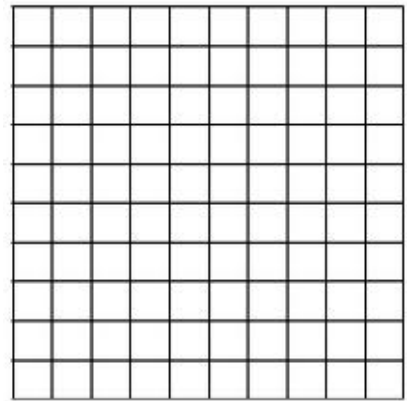


25-26) Given  $Q(3, 1)$ ,  $U(0, 5)$ ,  $A(6, 8)$ ,  $D(9, 4)$ .

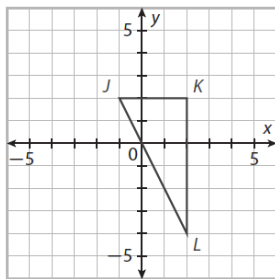
25. Find the perimeter of QUAD,

26. Prove that Quad is a parallelogram, but not a rectangle.

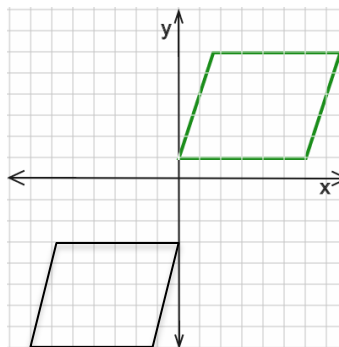
27. Determine, algebraically, whether or not the diagonals bisect each other.



28. Reflect over  $y = -x$ .



29. Describe three different transformations or sequence of transformations that map one of the congruent rhombi below onto the other.

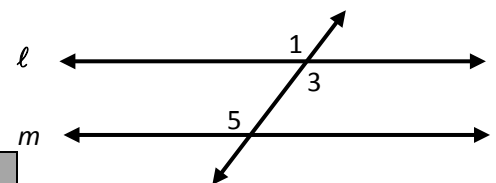


- a) \_\_\_\_\_
- \_\_\_\_\_
- b) \_\_\_\_\_
- \_\_\_\_\_
- c) \_\_\_\_\_
- \_\_\_\_\_

30. Prove the Alternate Interior Angle Theorem.

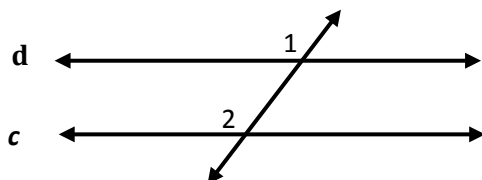
G:  $l \parallel m$

P:  $\angle 3 \cong \angle 5$



Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.

31. Given that  $d \parallel c$ ,  $m\angle 1 = 5x - 23$  and  $m\angle 2 = 3x + 37$ , Solve for  $x = \underline{\hspace{2cm}}$ .



32. For any parallelogram, list all the properties that are true (by theorem or definition) for the ...

Opposite sides are ...

\_\_\_\_\_ and \_\_\_\_\_

Opposite angles are ...

\_\_\_\_\_ while \_\_\_\_\_ adjacent angles are ... \_\_\_\_\_

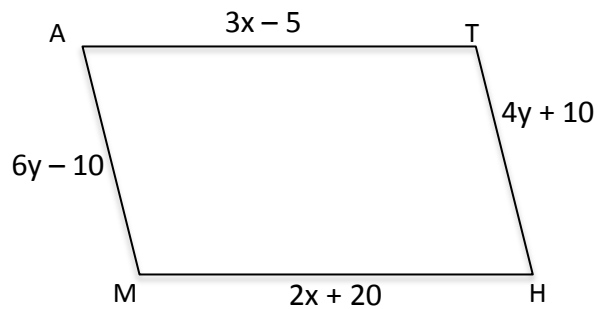
Diagonals ...

\_\_\_\_\_

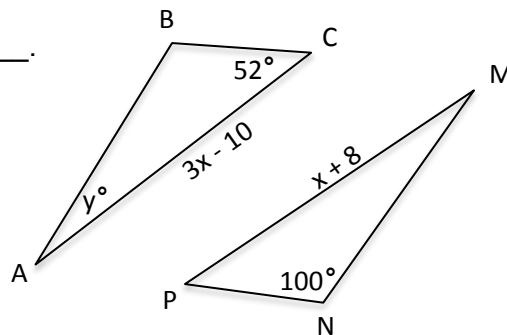
33. For rectangle HOME, diagonals HM and OE intersect at P, and  $HP = 3x + 5$  &  $OE = 8x - 15$ , find  $HM =$  \_\_\_\_\_ &  $OE =$  \_\_\_\_\_.

34. Given parallelogram MATH, with  $m\angle H = (2w + 30)^\circ$  and  $m\angle A = (6w - 50)^\circ$ , find:

- a)  $m\angle A =$  \_\_\_\_\_
- b)  $m\angle M =$  \_\_\_\_\_
- c) the perimeter of MATH = \_\_\_\_\_

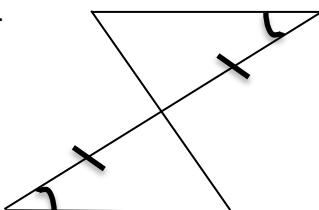


35.  $\triangle ABC \cong \triangle MNP$ . Find  $AC =$  \_\_\_\_\_.

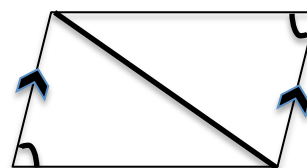


36-37) Which triangle congruency theorem or postulate (SSS, SAS, ASA, AAS), may be used to prove that the triangles are congruent. (More than one may apply.) Justify your answer.

36.

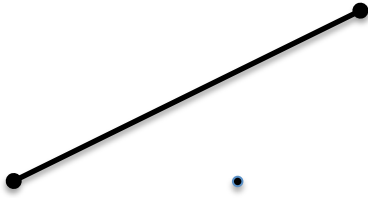


37.

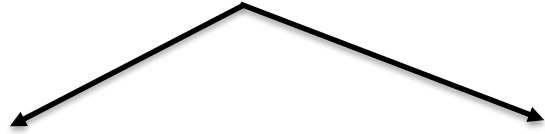


**38-39) Construct the following:**

38. Perpendicular through a point



39. Bisect an angle



40. For a given quadrilateral, all sides are congruent, but the diagonals may not be. Draw, label and identify this quadrilateral.

41. Draw square  $MAST$  and its diagonals intersecting at  $Q$ . Identify all parts that are congruent to ...

a)  $MA$ : \_\_\_\_\_

b)  $AT$ : \_\_\_\_\_

c)  $MQ$ : \_\_\_\_\_

d)  $\angle STM$ : \_\_\_\_\_