

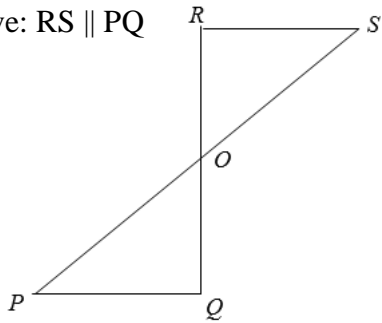
**Geometry Fall Semester Review: Chapter 3**

Name: \_\_\_\_\_

Show all work for full credit. PS3 – Parallel & Perpendicular Lines

1. Given: O is the midpoint of  $\overline{PS}$  and of  $\overline{RQ}$

Prove:  $RS \parallel PQ$



Statements	Reasons

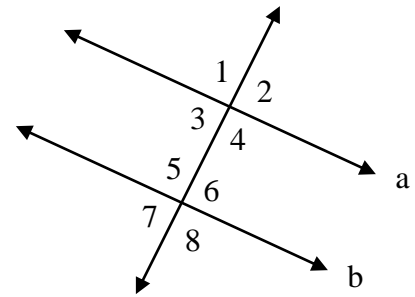
Use the following diagram to answer questions 16 – 18. Given:  $a \parallel b$ .

2. State the reason that defends the statement

If  $m\angle 3 = 95^\circ$ , then  $m\angle 6 = 95^\circ$ .

3. State the reason that defends the statement

If  $m\angle 4 = 70^\circ$ , then  $m\angle 6 = 110^\circ$ .



4. If  $m\angle 1 = 135^\circ$ , then the  $m\angle 8 =$  \_\_\_\_\_.

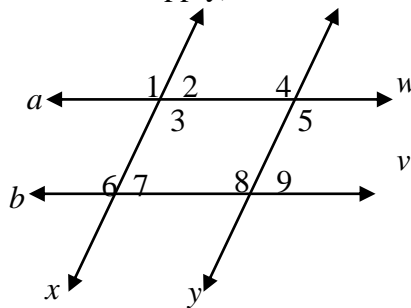
5. Which of the statements must be true if  $a \parallel b$  and  $x \parallel y$ ? (choose all that apply)

I.  $m\angle 3 + m\angle 7 = 180^\circ$

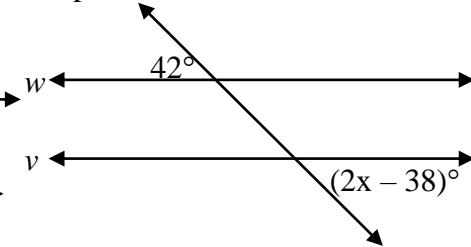
II.  $m\angle 1 + m\angle 4 = 180^\circ$

III.  $m\angle 6 = m\angle 8$

IV.  $m\angle 1 = m\angle 8$



6. What value of  $x$  would make lines  $w$  and  $v$  parallel?



7. Find the equation of the line parallel to the line  $2x + 5y = -20$  that passes through the point  $(-20, 10)$

8. Write the equation of a line perpendicular to  $y = -\frac{2}{3}x + 4$  and passes through the point  $(5, 1)$ .

9. Write the equation of a line

a) passing through  $(-2, 5)$  and has a slope of 3

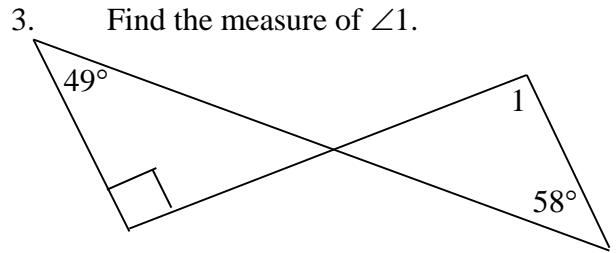
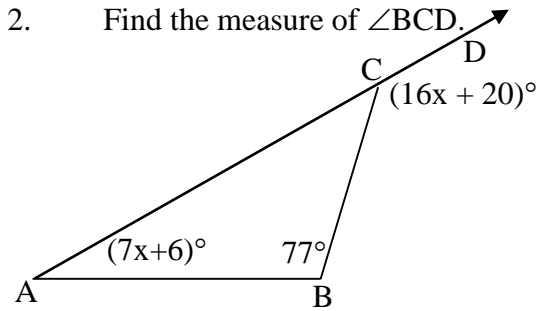
b) perpendicular to  $3x - 6y = 24$  through  $(4, -1)$

**Geometry Fall Semester Review: Chapter 5**

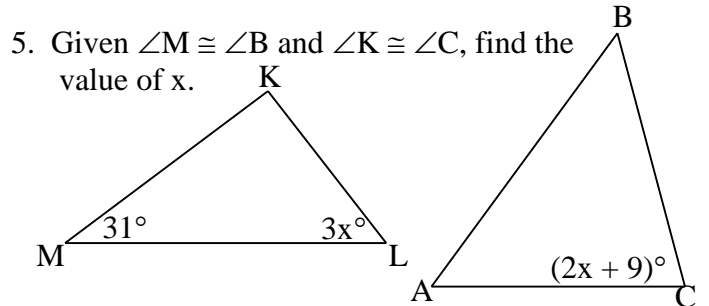
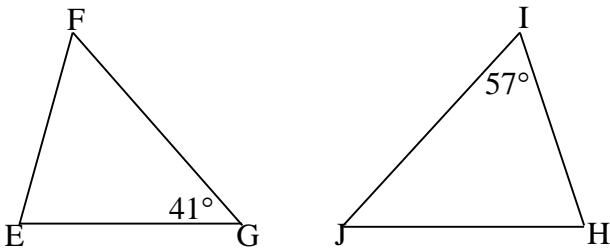
Name: \_\_\_\_\_

Show all work for full credit. PS5 – Congruent Triangles

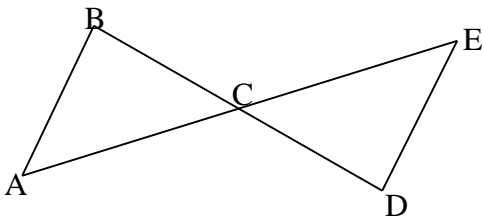
1. A triangle with one obtuse angle and two congruent sides is called \_\_\_\_\_.



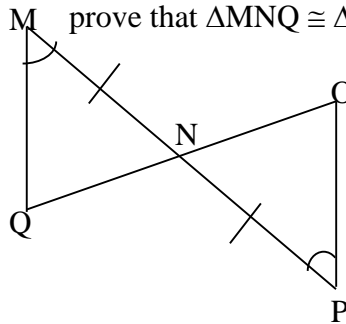
4. In the diagram below  $\triangle EFG \cong \triangle HIJ$ . What is the measure of  $\angle H$ ?



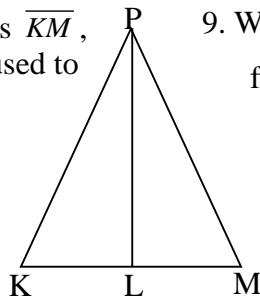
6. Which postulate or theorem can be used to prove that  $\triangle ABC \cong \triangle EDC$  given  $C$  is the midpoint of  $AE$  and  $\angle B \cong \angle D$ ?



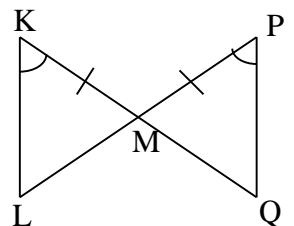
7. What is the third congruence needed to prove that  $\triangle MNQ \cong \triangle PNO$  by AAS?



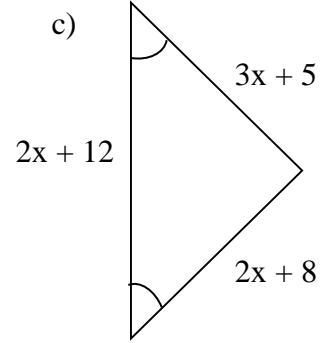
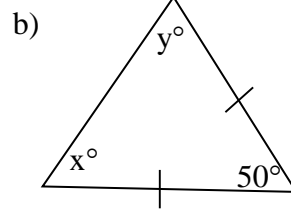
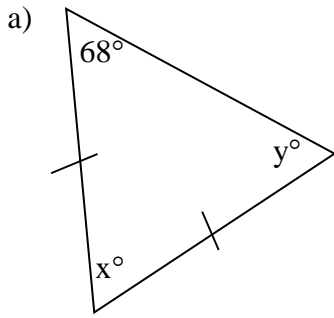
8. Given that  $\angle K \cong \angle M$  and  $\overline{PL}$  bisects  $\overline{KM}$ , which postulate or theorem can be used to prove that  $\triangle KLP \cong \triangle MLP$ ?



9. Write a triangle congruence statement for the following diagram.

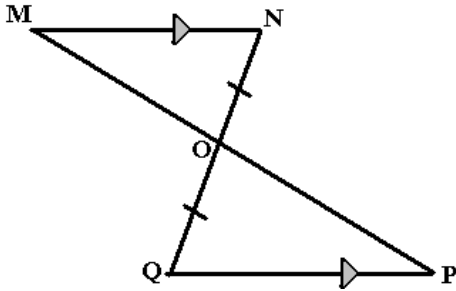


10. Find the values of  $x$  and  $y$  in each figure.



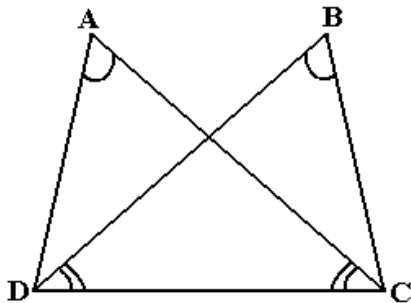
Use the information given in each diagram to complete each proof.

11. Prove:  $\triangle MNO \cong \triangle PQO$



Statement	Justification

12. Prove:  $AD \cong BC$




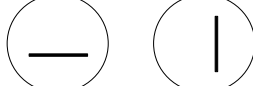
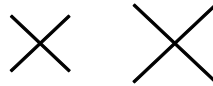
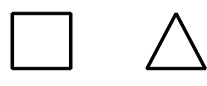
Statement	Justification

**Geometry Fall Semester Review: Chapter 4**

Name: \_\_\_\_\_

Show all work for full credit. PS4 – Transformations

1. Which of the following transformations represent an isometry (rigid motion)?

[A]  [B]  [C]  [D] 

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2. Use the squares to (a) draw all lines of symmetry and b) give all angles of rotational symmetry.



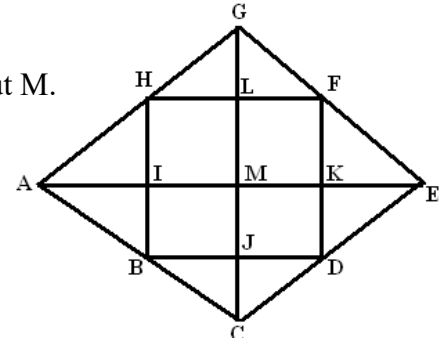
3. During ceramics class, Susan painted plates for her mother. Which design exhibits rotational symmetry?

[A]  [B]  [C]  [D] 

4. Name the transformation that maps the unshaded car onto the shaded car.

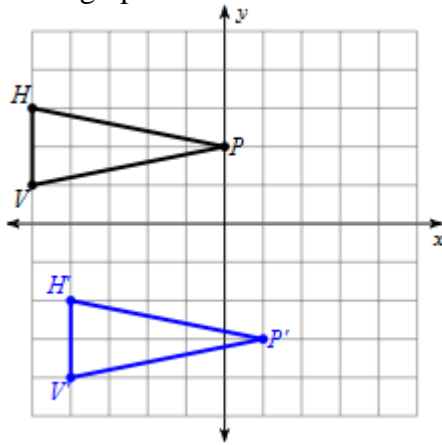


5. Name the triangle that is a 180 clockwise rotation of  $\triangle HLG$  about M.



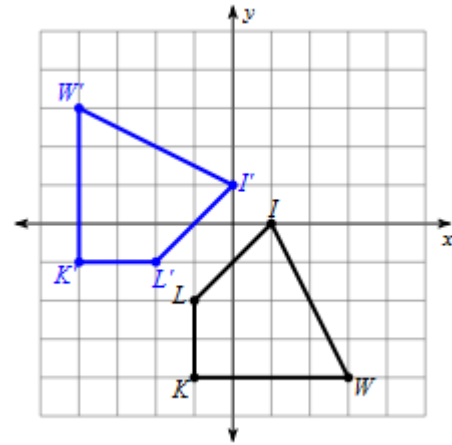
Use each graph to answer the follow-up questions.

6.



- a) Identify the transformation:  
 [A] translation: 1 unit right and 5 units down  
 [B] rotation:  $90^\circ$  counter-clockwise about  $(0, 0)$   
 [C] reflection across the x-axis  
 [D] None of these
- b) Give the transformation in coordinate notation.  
 $(x, y) \rightarrow$

7.



- a) Identify the transformation:  
 [A] translation: 1 unit left and 1 units up  
 [B] rotation:  $90^\circ$  clockwise about  $(0, 0)$   
 [C] reflection across the line  $y = x$   
 [D] None of these
- b) Give the transformation in coordinate notation.  
 $(x, y) \rightarrow$

8. Find the coordinates of the vertices of the image of  $QRST$  for each transformation.

$Q(1, 5), R(3, -1), S(0, 0), T(-2, 3)$

a. reflection across the  $y$ -axis

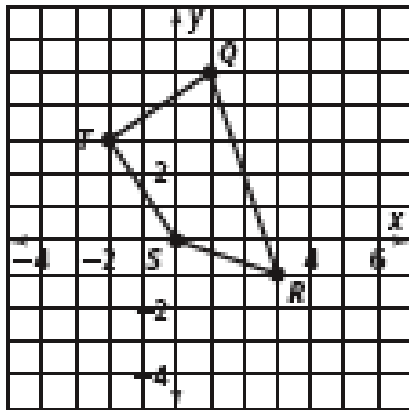
b. rotation of  $90^\circ$  clockwise about the origin

$Q' ( \quad , \quad )$

$R' ( \quad , \quad )$

$S' ( \quad , \quad )$

$T' ( \quad , \quad )$

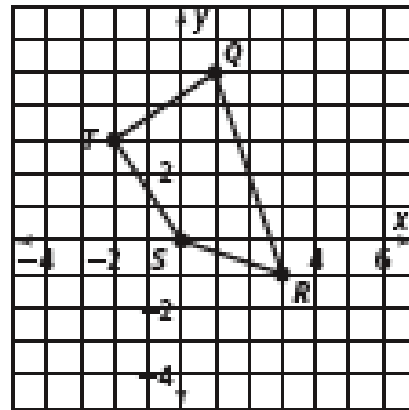


$Q' ( \quad , \quad )$

$R' ( \quad , \quad )$

$S' ( \quad , \quad )$

$T' ( \quad , \quad )$



c. translation  $(x, y) \rightarrow (x+2, y-5)$

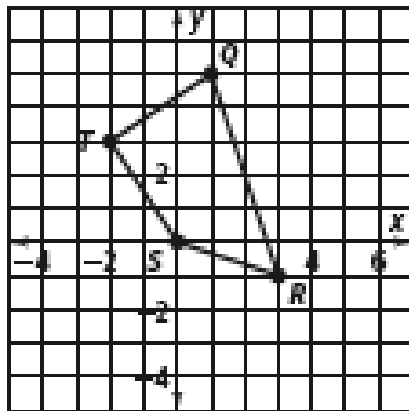
d. translation  $(x, y) \rightarrow (x-4, y)$  followed by a reflection across the line  $y = -2$

$Q' ( \quad , \quad )$

$R' ( \quad , \quad )$

$S' ( \quad , \quad )$

$T' ( \quad , \quad )$

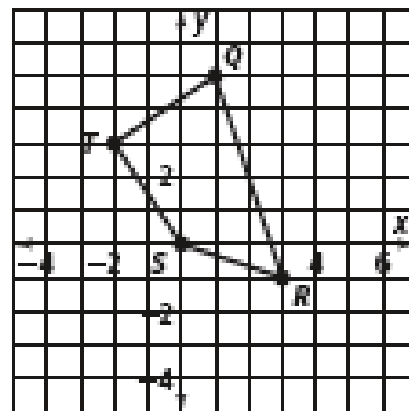


$Q' ( \quad , \quad )$

$R' ( \quad , \quad )$

$S' ( \quad , \quad )$

$T' ( \quad , \quad )$



9. Write the transformation rule for the transformation of quadrilateral  $EFGH$  onto  $E'F'G'H'$  in coordinate notation AND vector component forms.

