

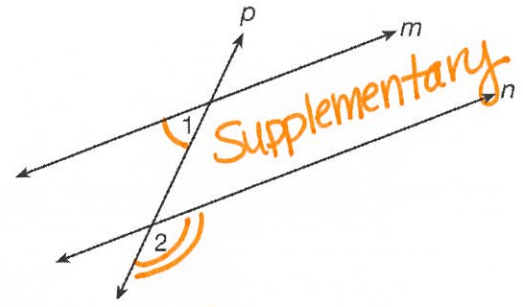
NAME: Key 2017

DATE: _____

GEOMETRY-Quarterly 1 Review

PERIOD: _____

1) As shown in the diagram below, lines m and n are cut by transversal p .
If $m\angle 1 = 4x + 14$ and $m\angle 2 = 8x + 10$, lines m and n are parallel when x equals



- 1) 1
- 2) 6
- 3) 13
- 4) 17

$4x + 14 + 8x + 10 = 180$
 $12x + 24 = 180$
 $12x = 156$
 $x = 13$

2) Which of the following is a not a RIGID MOTION of the pre-image?

Pre-Image A) B) C) D)

not congruent Got smaller

3) Translation T maps point $(2, 6)$ to point $(4, -1)$. What is the image of point $(-1, 3)$ under translation T ?

Figure out RULE $\rightarrow (x+2, y-7)$ apply the rule $\rightarrow (1, -4)$

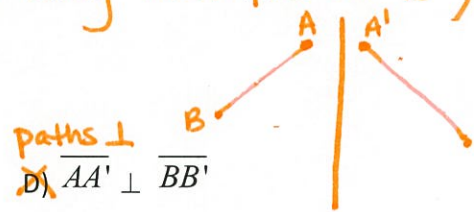
4) What is the angle of rotational symmetry for a regular octagon?

- a) 18°
- b) 36°
- c) 45°
- d) 72°

$\frac{360}{\# \text{ sides}} = \frac{360}{8} = 45^\circ$ (or any multiple of 45°)

5) \overline{AB} is reflected to create image $\overline{A'B'}$. Which statement is always true?

- A) $A'A = B'B$ (Paths NOT =)
- B) $AB = A'B'$ (Preimage = Image)
- C) $AB \perp A'B'$ (pre-image \perp Image)
- D) $AA' \perp BB'$ (paths \perp)



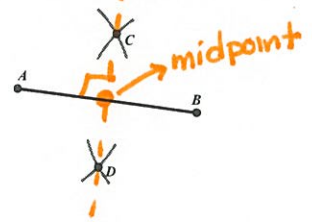
6) Which of the following is NOT a RIGID MOTION?

- A) Reflection
- B) Dilation
- C) Rotation
- D) Translation

not congruent

7) A teacher finds a paper on the ground in the classroom. When she looks at it carefully she realizes it is from her geometry class because it has a construction on it. Which of the following constructions is NOT FOUND directly from this student's work?

- ✓ A) The midpoint of \overline{AB}
- ✓ B) The perpendicular bisector of \overline{AB}
- ✓ C) A perpendicular line to \overline{AB}
- D) The angle bisector of $\angle CAB$



8) Which diagram shows the construction of a 45° angle?

A)

B)

C)

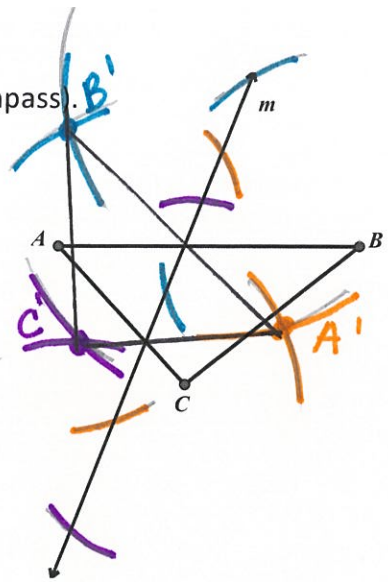
D)

\perp construction $\rightarrow 90^\circ$
then
 \times bisector $\rightarrow 45$

16. Perform the following constructions (using a straight-edge and a compass).

$$r_m(\triangle ABC)$$

make 2 arcs on m from "A" (center pt. A)
 make "x" from those two arcs
 REPEAT FOR B and C!

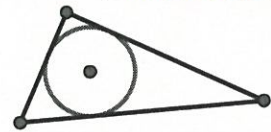
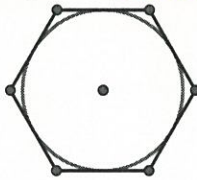


17. Determine whether the relationships is INSCRIBED or CIRCUMSCRIBED.

inside w/ vertices touching

around outside

a) The triangle is inscribed. b) The hexagon is circumscribed c) The circle is inscribed



add/sub.

28. Given a translation rule, determine the missing point.

a) $T(x,y) \rightarrow (x - 1, y - 2)$ $A(-1,4)$ $A'(-2, 2)$

b) $T(x,y) \rightarrow (x - 8, y + 1)$ $A(5,1)$ $A'(-3, 2)$

c) $T(x,y) \rightarrow (x + 4, y + 4)$ $A(-1, -5)$ $A'(3,-1)$ **BACKWARDS!**

d) $T(x,y) \rightarrow (x, y - 2)$ $A(3,-4)$ $A'(3, -6)$

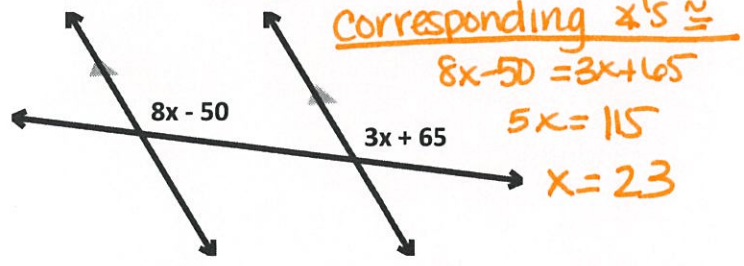
9) Which word is NOT synonymous with rigid motion?

synonym \Rightarrow same meaning

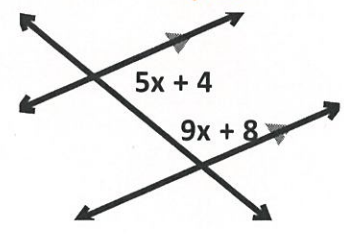
congruent pre image + image

- A) Similar B) Identical C) Congruent D) Isometry

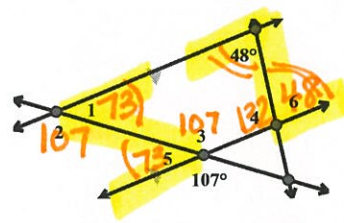
10) Solve for x = 23



11) Solve for x = 12



12) Solve for all missing angles

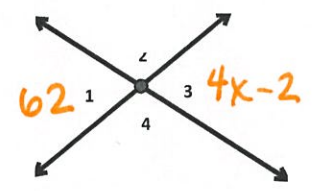


LOOK FOR

- Vertical \angle 's \cong
- linear Pairs Supp.
- Δ 's (\angle 's add to 180)
- \parallel lines \rightarrow Alt. int \angle 's \cong "Z"

13. If $m\angle 1 = 62^\circ$ and $m\angle 3 = 4x - 2$, then:

- A) x = 15 B) x = 16 C) x = 31 D) x = 62



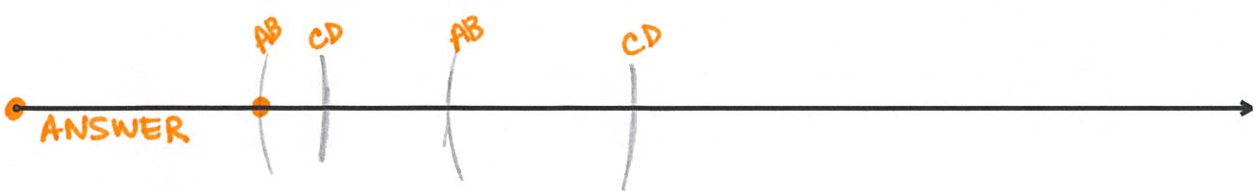
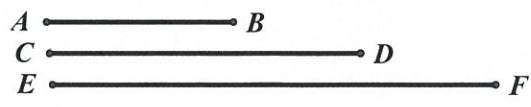
vertical angles \cong
 $62 = 4x - 2$
 $64 = 4x$
 $16 = x$

14. How many lines of symmetry does the flower have?

- A) 1 line of symmetry B) 3 lines of symmetry
 C) 6 lines of symmetry D) 9 lines of symmetry

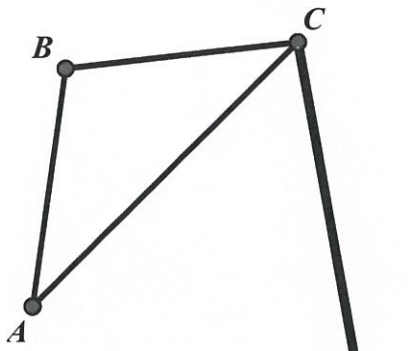


15. On the ray below construct exactly the length $2CD - 2AB$



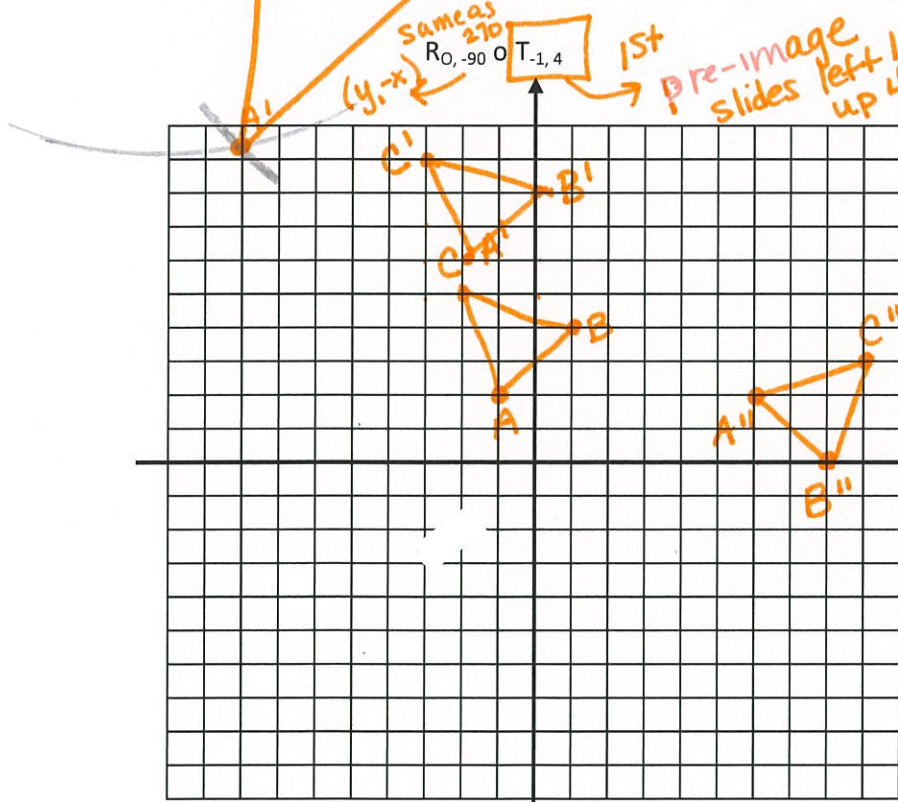
measure + mark CD TWICE
 w/ needle on last arc, measure and mark AB TWICE (backwards)

19. Use a compass and straight edge to construct the following translation.



- measure vector
- mark length from all vertices (C already done)
- measure from initial pt to pre-image pt
- slide needle down vector
- make "x"

20. Perform the following composition on $\triangle ABC$ where $A(-1,2)$ $B(1,4)$ $C(-2,5)$



- $A'(-2, 6)$
- $B'(0, 8)$
- $C'(-3, 9)$

- $A''(6, 2)$
- $B''(8, 0)$
- $C''(9, 3)$

21. Determine the name of the point that meets the given conditions.

a) $r_n(A) = \underline{B}$

b) $r_r(C) = \underline{A}$

c) $r_s(D) = \underline{A}$

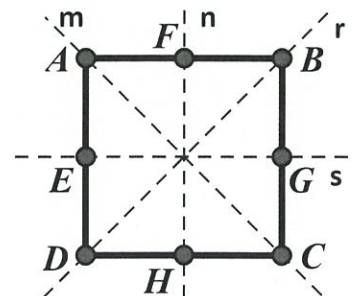
d) $r_m(\underline{D}) = B$

e) $r_n(D) = \underline{C}$

f) $r_m(E) = \underline{F}$

g) $r_m(G) = \underline{H}$

h) $r_s(\underline{F}) = H$



Name: _____

Date: _____

Quarterly #1 Review #2

Geometry CC

1. Supplementary
 $44x + 4 = 180$
 $44x = 176$ $x = 4$

rule $(x+3, y-4)$

2. Corresponding =
 $23x - 5 = 21x + 5$
 $2x = 10$
 $x = 5$

3. alternate exterior =
 $-1 + 14x$ $-1 + 14x = 12x + 1$
 $2x = 18$
 $x = 9$

4. A Translation moves A (-2, 3) to A'(1, -1). What are the coordinates of the image of the point (4, -2) under the same translation?

apply rule
 $(7, -6)$

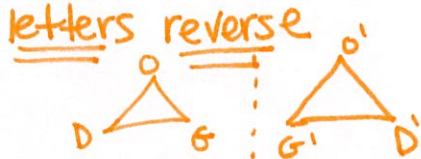
5. What are the coordinates of point A', the image of point A(-4, 1) after the composite transformation R_{90° $r_{y=x}$ where the origin is the center of rotation?

$(1, 4) \rightarrow (4, 1)$
1st (y, x)
2nd $(-y, x)$

6. Which of the following properties is not preserved

under a line reflection? Flipped!

- a. Distance
- b. Orientation
- c. Parallelism
- d. Angle measure



7. Which transformation does not preserve orientation?

- (1) translation
- (2) dilation
- (3) rotation
- (4) line reflection

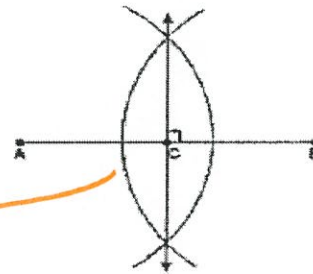
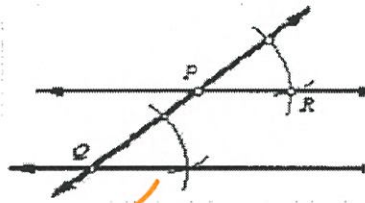
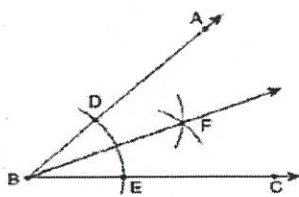
8. What is the angle of rotational symmetry when the for a regular pentagon?

5 sides
 $\frac{360}{\# \text{ of sides}} = \frac{360}{5} = 72^\circ$ or multiples of 72°

9. Solve for x:

Linear Pair Supp.
 $3x + 15 = 180$
 $3x = 165$
 $x = 55$

10. Match the construction with the correct geometric term:



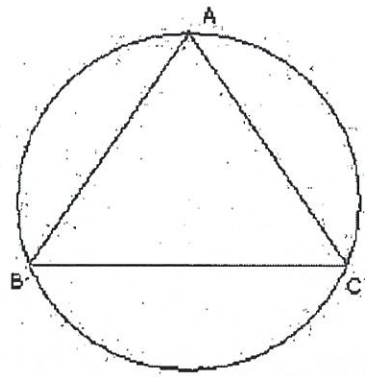
a. Parallel lines

b. Perpendicular bisector

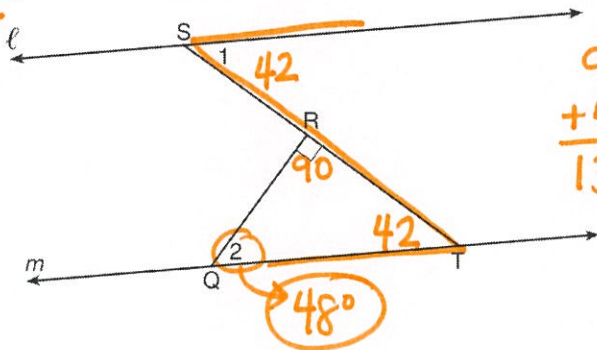
c. Angle bisector

11. The Circle is Circumscribed (Inscribed or Circumscribed)

The Triangle is inscribed (Inscribed or Circumscribed)



12. In the diagram, $\ell \parallel m$ and $\overline{QR} \perp \overline{ST}$ at R.
 If the $m\angle 1 = 42^\circ$ find the $m\angle 2$.



$$\begin{array}{r} 90 \\ +42 \\ \hline 132 \end{array} \quad \begin{array}{r} 180 \\ -132 \\ \hline 48 \end{array}$$

13. What are the coordinates of A (3, -2) under a rotation of 90° centered about the origin?
 $(-y, x)$

$(2, 3)$

14. What are the coordinates of B(-2, 4) under a rotation of -90° centered about the origin?
 same as $270^\circ (y, -x)$

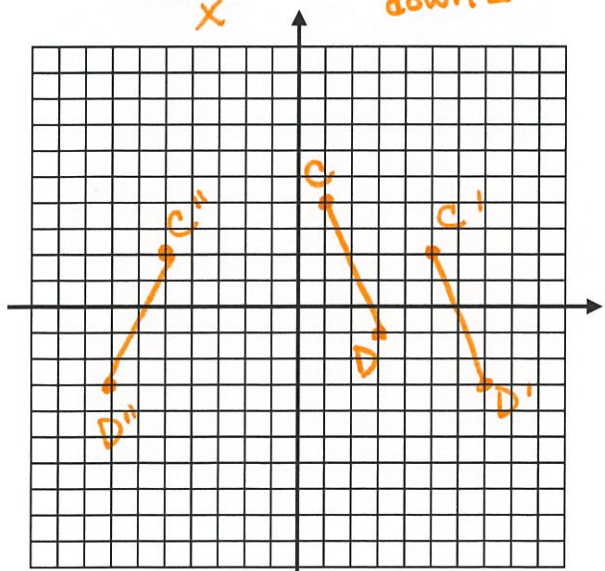
$(4, 2)$

15. Given \overline{CD} with coordinates C(1,4) and D (3, -1) State the coordinates of $\overline{C''D''}$, the image of \overline{CD} under the composition $r_{y\text{-axis}} \circ T_{\langle 4, -2 \rangle}$ [The use of the accompanying grid is optional.]

negate x
1st right 4
down 2

$C'(5, 2)$
 $D'(7, -3)$

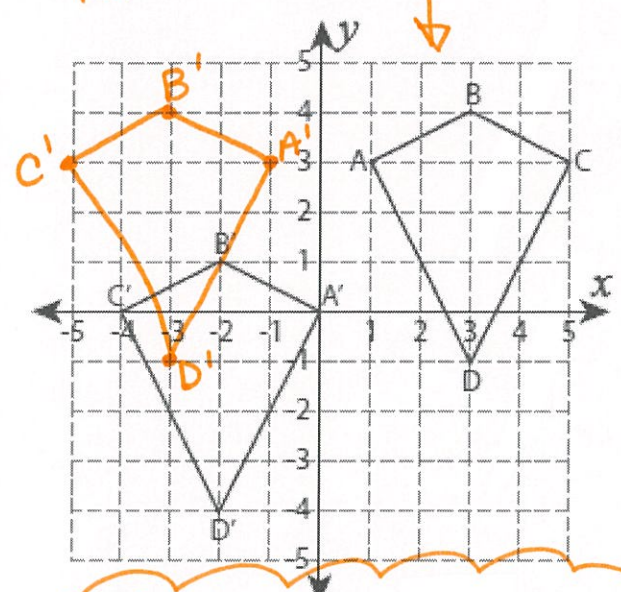
$C''(-5, 2)$
 $D''(-7, 3)$



many different answers

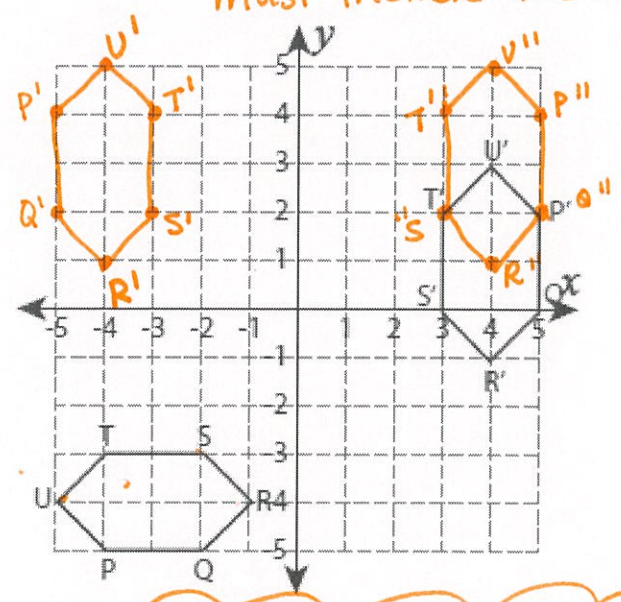
16. Describe a sequence of rigid motions that maps the figures onto one another.

orientation reverses → must include a line reflection.

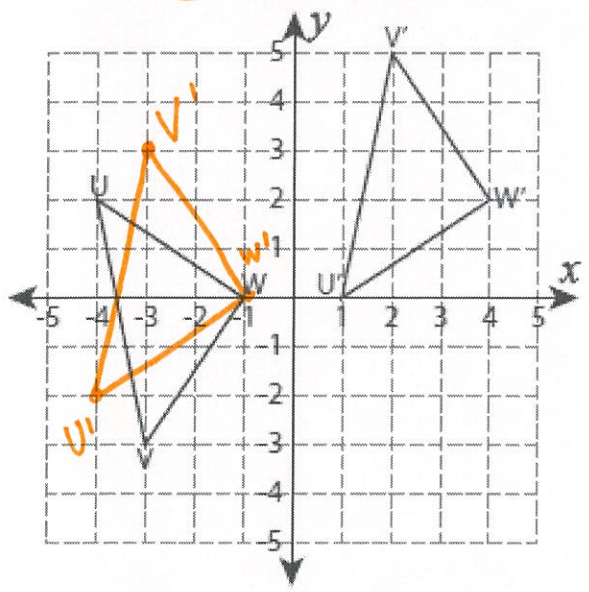


reflection over y-axis then
Translation Right 1, down 3

orientation reverses — must include line reflect



Rotation of -90° about origin then
reflection over y-axis then
Translation down 2



orientation reverses → line reflection
reflection over x-axis THEN
Translation 5 RIGHT, 2 UP