Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DUE DATE: THURSDAY APRIL 18, 2019

1. A student constructs the image of line segment AB under a dilation with center O, not on the segment, with a scale factor of 3. Which describes the image of the line segment?
	1. The image of line segment AB is a line segment parallel to AB
	2. The image of line segment AB is a line segment perpendicular to AB
	3. The image of line segment AB is a line segment passing through point O that intersects AB
	4. The image of line segment AB is a line segment passing through point O that leaves AB unchanged
2. AB with length 2.4 cm is dilated with a scale factor of 3. What is the new length of AB?
	1. 0.8 cm
	2. 2.4 cm
	3. 5.4 cm
	4. 7.2 cm
3. A right triangle with hypotenuse 5 units and one leg 4 units is dilated with a scale factor of 2. What is the length of the smallest side of the new triangle?
	1. 3 units
	2. 6 units
	3. 8 units
	4. 10 units



1. What is the scale factor of the dilation?
	1. 7/4
	2. 4/7
	3. 7/5
	4. 5/7
2. Δ *NOP* has side lengths of 5 cm, 7 cm, and 9 cm. If Δ *NOP* ~ Δ *RST*, which could be side lengths of Δ *RST*?
	1. 1 cm, 3, cm, 5 cm
	2. 6 cm, 8.4 cm, 13.5 cm
	3. 7.5 cm, 10.5, 13.5 cm
	4. 15 cm, 17 cm, 19 cm
3. What scale factor could be used to dilate circle X

to be congruent to circle Y?

* 1. 4/3
	2. 3/4
	3. 3/5
	4. 2/1
1. In the triangle to the right, what is the length of segment *DF*?
	1. 9
	2. 10
	3. 12
	4. 20
2. Select the **1** triangle that correctly completes

the similarity statement? ΔABC ~ Δ \_\_\_\_

1. ΔABD
2. ΔADB
3. ΔBCD
4. ΔBCA
5. Segment BC is a midsegment and triangle ADE. Find the

length of BC if BC=2x+14 and DE = 6x - 12.

* 1. 7
	2. 20
	3. 28
	4. 54
1. Given: Δ*PQR* ~ Δ*XYZ*.

 What is the perimeter of Δ*XYZ*?

* 1. 21
	2. 63
	3. 105
	4. 126
1. What additional information do you need to prove the two

triangles are congruent by the SAS Postulate?

* 1. 
	2. 
	3. 
	4. 
1. Which statement is **TRUE**?
	1. Δ*ABC* $≅$ Δ*JLK* by HL
	2. Δ*ABC* $≅$ Δ*JKL* by HL
	3. Δ*ABC* $≅$ Δ*JLK* by SAS
	4. Δ*ABC* $≅$ Δ*JKL by SSS*
2. Heather is 1.6 meters tall and casts a shadow of 3.5 meters.

A barn nearby casts a shadow of 17.5 meters. What is the height of the barn?

* 1. 5 m
	2. 8 m
	3. 14 m
	4. 38 m
1. Given: A (3,1), B (4,5), C (2,3), D (-1, -3), E (-5, -4), F (-3, -2)

 Which statement proves ΔABC maps onto ΔDEF?

* 1. Rotation:  **(x,y) → (y, -x),** followed by a Reflection: **(x, y) → (x, -y).**
	2. Reflection:  **(x,y) → (-x, y),** followed by a Rotation: **(x, y) → (y, -x).**
	3. Translation:  **(x,y) → (x-4, y),** followed by a Translation: **(x, y) → (x, y-6).**
	4. Rotation:  **(x,y) → (-y, x),** followed by a Reflection: **(x, y) → (x, -y).**



1. A pilot uses triangles to find the angle of elevation,  from

the ground to her plane. If , how can she find ?

* 1.  by SAS &  by CPCTC,

so  by substitution.

* 1.  by CPCTC &by SAS,

so by substitution.

* 1.  by ASA &  by CPCTC,

so by substitution.

* 1.  by CPCTC &  by ASA,

so by substitution.



1. Point *E* is the midpoint of line segments *AC* and *BD*.

Which is the **TRUE** statement?

1.  by ASA
2. by AAS
3. by SAS
4. by SSS



1. Use the figure to answer the question.

Which is the **TRUE** statement?

1.  by SAS
2.  by HL
3.  by SSS
4.  by HL
5. Two lines intersect to form two pairs of vertical angles:  are vertical angles.  are vertical angles.

 What are the values of x and y and the measure of  ?

* 1. 
	2. 
	3. 
	4. 
1. For two parallel lines and a transversal, ∠1 and ∠2 are same-side interior angles, ∠2 and ∠3 are vertical angles, ∠3 and ∠4 are alternate exterior angles. Which classification best describes the relationship between ∠2 and ∠4?
	1. Adjacent
	2. Corresponding
	3. Alternate Interior
	4. Vertical
2. What is *m*1? *(Hint: Draw a line parallel to the given parallel lines.)*
	1. 
	2. 
	3. 
	4. 



1. What is the length of AB?
	1. 5
	2. 15
	3. 30
	4. 70



1. Given: *BC* = 3x - 1 and *XY* = 2x - 3.

What is the length of *XY*?

* 1. 5 units
	2. 7 units
	3. 14 units
	4. 28 units



1. If *AD=5*, *AT* = 18, and *CT* = 22, find the perimeter of Δ*DOG*?
	1. 25
	2. 33
	3. 40
	4. 50



1. A surveyor locates points *A*, *B*, *C*, *D*, and *E* of a pond. Triangle CDE is similar

to Triangle CBA. *CD*=4 and *CB*=12. Using the lengths measured, what is

the length of *AB* to the nearest meter?

* 1. 10 meters
	2. 12 meters
	3. 15 meters
	4. 18 meters



1. Two Galaxy systems, Tauri and M77, represented by points A and B,

are equidistant from Earth, represented by point C. What is mA?

* 1. 65°
	2. 115°
	3. 50°
	4. 77°



1. Given: ABCD is a parallelogram. Prove: ∠*A* ≅ ∠*C*; ∠*B* ≅∠*D*

What is the reason for Step 2 in this incomplete proof?

* 1. Definition of parallelogram
	2. When parallel lines are cut by a transversal,

alternate interior angles are congruent.

* 1. When parallel lines are cut by a transversal,

corresponding angles are congruent.

* 1. Corresponding parts of congruent triangles

are congruent.

1. Given quadrilateral ABCD with AB ≅ CD; BC ≅ DA, and AC ≅ BD. Which of the following is correct concerning quadrilateral ABCD?
	1. Opposite sides are congruent, so ABCD is a parallelogram. Diagonals are congruent, so ABCD is a rectangle. Two consecutive sides are not necessarily congruent, so ABCD is NOT a square.
	2. Opposite sides are congruent, so ABCD is a rhombus. Diagonals are congruent, so ABCD is a rectangle. A quadrilateral that is a rhombus and a rectangle is a square, so ABCD is a square.
	3. Opposite sides are congruent, so ABCD is a parallelogram. Diagonals are congruent, so ABCD is a rhombus. One angle is not a right angle, so ABCD is NOT a square.
	4. The conclusion is valid without any more information needed. ABCD is a square.



1. In quadrilateral ABCD, AB ≅ DC and AD ≅ BC. Find the m∠D.
2. 180°
3. 80°
4. 40°
5. 100°



1. *Thinking Constructions:* What is the first step to copy *AB* onto the line?
	1. Use a straightedge to draw *AB* so it intersects the other line.
	2. Open a compass to the distance of *AB*.
	3. Use a ruler to measure *AB*.
	4. Use a straightedge to draw *AB*.
2. Which step should be first to construct a line perpendicular to *HJ* at point *J*?
	1. Place the compass on point *H,* set its width to less than *HJ*, draw two arcs on both sides of *H*.
	2. Place the compass on point *J,* set its width to less than *HJ*, draw two arcs on both sides of *J*.
	3. Place the compass on point *J,* set its width to less than *HI*, draw a circle that will intersect the segment in two places.
	4. Place the compass on point *J,* set its width to more than *JI*,

draw a circle around the segment *HI.*



1. What is the first step when inscribing a regular hexagon in the circle?
	1. Set the compass to any distance. Then place the point of

the compass at *A* and draw an arc that passes through

any point on the circle.

* 1. Place the point of the compass at any point on the circle &

 draw an arc that passes through point *A*.

* 1. Open the compass to the radius of the circle.
	2. Draw the diameter of the circle.
1. Given Δ*PQR* $≅$ Δ*XYZ,* which statement is **NOT** true?
	1. PR $≅$ XZ
	2. YZ $≅$ QR
	3. RQ $≅$ ZX
	4. ZY $≅$ RQ
2. Triangle BCD has been dilated to create triangle B'C'D'.

(NOTE: Your teacher will score your response to this question using a 2-point rubric.)



* **Part A:**  What is the scale factor that created Δ*B’C’D’?*

* **Part B:**  What is the similarity ratio of the areas from the

pre – image to the image?