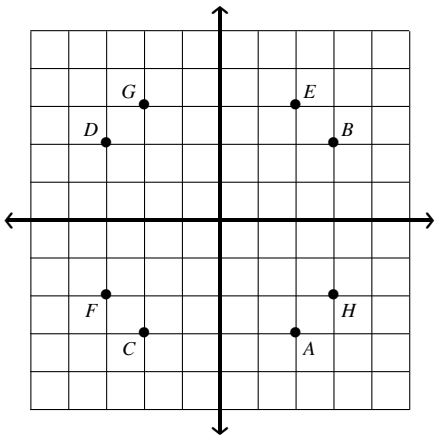
GEOMETRY Math 2 EOC Review (10)

Congruence

1. What is the image of point A after a rotation of 90° in the clockwise direction?



A. B B. D C. E D. F

2. What is the image of point A after a rotation of 180° in the counterclockwise direction?

A. C B. D C. F D. G

3. What is the image of $(-4, 1)$ after a rotation of 180° clockwise?

A. $(-1, -4)$ B. $(1, 4)$

C. $(4, -1)$ D. $(1, -4)$

4. Find the image of the point $(5, 3)$ after a 90° counterclockwise rotation.

A. $(-3, 5)$ B. $(-3, -5)$

C. $(3, -5)$ D. $(5, -3)$

5. Which shape, if rotated 90°, will coincide with itself? ("Coincide" means means there's an exact match between the set of points, or one shape will lay perfectly on top of the other.)

A. rectangle B. equilateral triangle

C. parallelogram D. square

6. Which shape, if rotated 120°, will coincide with itself? ("Coincide" means means there's an exact match between the set of points, or one shape will lay perfectly on top of the other.)

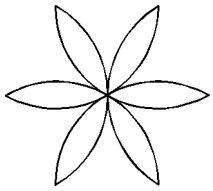
A. trapezoid B. equilateral triangle

C. isosceles triangle D. square

7. What is the rotational symmetry of a regular octagon?

A. 60° B. 45° C. 40° D. 30°

8. Look at this figure:



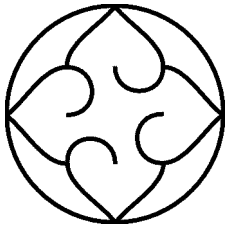
If the figure is rotated a certain number of degrees, the transformed figure will coincide with (overlap) the original. Which of these *cannot* be the rotation?

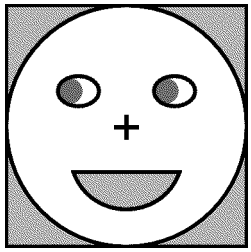
A. -240° B. 120°

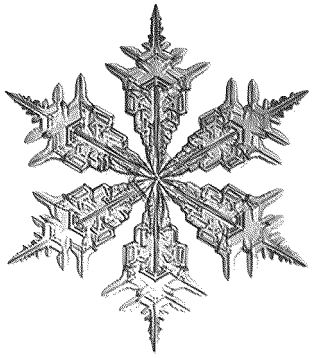
C. 180° D. 320°

9. If you can fold a figure in half and the two halves coincide (match perfectly), then the figure has what is called *line symmetry*.

Which of these figures has line symmetry?

I. 

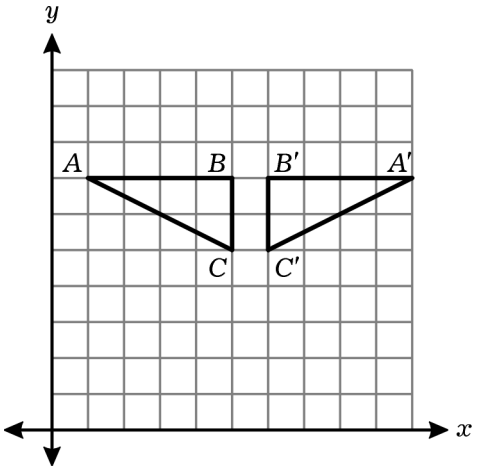
II. 

III. 

A. II only B. III only C. I and III only D. II and III only

---

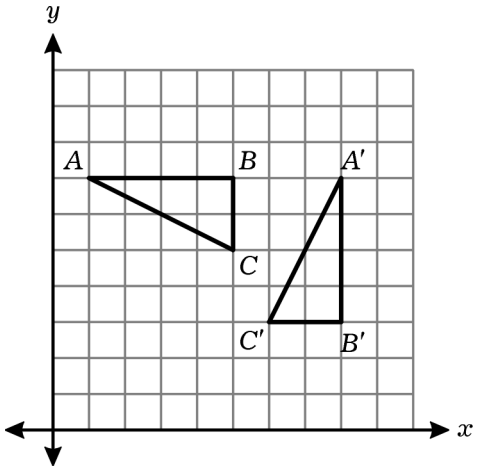
10. Triangle $A'B'C'$ is an image of the other triangle. What kind of transformation is shown?



A. translation B. reflection

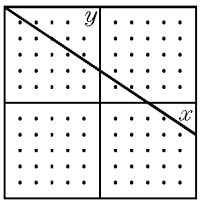
C. dilation D. rotation

11. Triangle $A'B'C'$ is an image of the other triangle. What kind of transformation is shown?

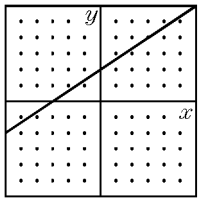


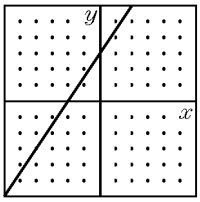
A. translation B. reflection

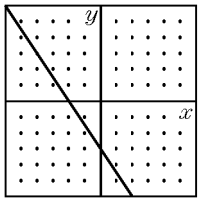
C. dilation D. rotation

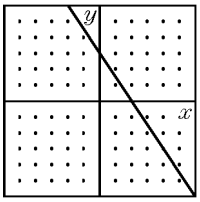
12. 

If the above line is reflected across the y-axis, which of the following is the graph of the new (reflected) line?

A. 

B. 

C. 

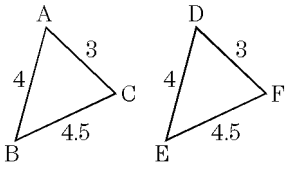
D. 

13. A translation maps $J(1, 4)$ onto $K(7, -3)$. Find the coordinates of the image of $L(5, 10)$ under the same translation.

A. $(11, 3)$
B. $(-11, 7)$
C. $(1, -17)$
D. $(-1, -17)$

14. State the congruence relation for $\triangle ABC$ and $\triangle DEF$.

A. SSS
B. SSA
C. AAA
D. SAS



15. The ASA congruency axiom states that two triangles are congruent if:

A. two angles and the contained side of one triangle are equal to two angles and the contained angle of the other triangle.

B. they are right triangles and the hypotenuse and one side of one triangle are equal to the hypotenuse and one side of the other triangle.

C. two sides and the contained angle of one triangle are equal to two sides and the contained angle of the other triangle.

D. two sides and the excluded angle of one triangle are equal to two sides and the excluded angle of the other triangle.

16. The SAS congruency axiom states that two triangles are congruent if:

A. two angles and the contained side of one triangle are equal to two angles and the contained angle of the other triangle.

B. two sides and the contained angle of one triangle are equal to two sides and the contained angle of the other triangle.

C. two angles and a side of one triangle are equal to two angles and a side of the other triangle.

D. two sides and the excluded angle of one triangle are equal to two sides and the excluded angle of the other triangle.

17. By the SSS congruency axiom, two triangles are congruent when 3 sides of one triangle equal _____ of the other triangle.

A. at least 2 sides

B. at least 2 sides and the contained angle

C. 2 angles and the contained side

D. 3 sides

18. By the ASA congruency axiom, two triangles are congruent when 2 angles and the contained side of one triangle equal _____ of the other triangle.

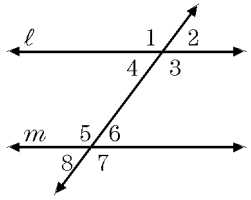
A. at least 2 angles

B. any 2 angles and any side

C. 2 angles and the contained side

D. 3 sides

19. The Corresponding Angles Conjecture states that if two parallel lines are cut by a transversal, the corresponding angles are congruent. The picture below shows this relationship.



Which of these congruent angles are corresponding angles?

A. $\angle 1$ and $\angle 4$ B. $\angle 1$ and $\angle 3$

C. $\angle 4$ and $\angle 8$ D. $\angle 4$ and $\angle 3$

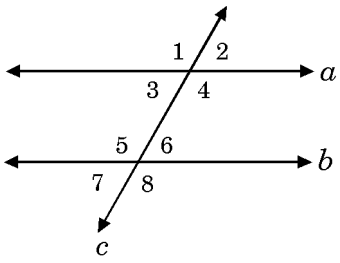
20. In the diagram, if lines a and b are parallel, which of the following must be true?

A. $\angle 3 \cong \angle 4$

B. $\angle 7 \cong \angle 1$

C. $\angle 4 \cong \angle 5$

D. $\angle 8 \cong \angle 2$



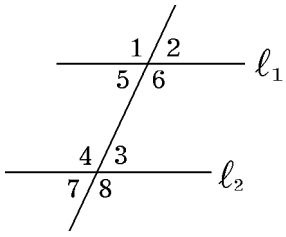
21. Which of the following facts proves that $\ell_1 \parallel \ell_2$?

A. $\angle 6 \cong \angle 3$

B. $\angle 3 \cong \angle 7$

C. $\angle 1 \cong \angle 5$

D. $\angle 1 \cong \angle 8$



22. The perpendicular bisector of a line segment will result in angles that are _____.

A. acute B. obtuse

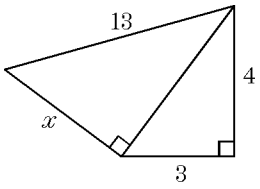
C. right D. complementary

Similarity, Right Triangles, & Trigonometry

23. Find the length of side x.

A. 10 B. 12

C. 14 D. 194



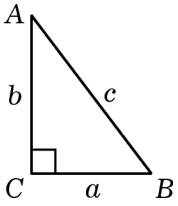
24. Given the triangle shown, which of the following is true?

A. $\sin B = \frac{c}{b}$

B. $\cos A = \frac{c}{b}$

C. $\tan A = \frac{b}{a}$

D. $\sin B = \frac{b}{c}$



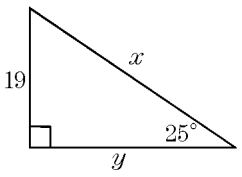
25. Which of the following statements is *incorrect*?

A. $\sin 25° = \frac{19}{x}$

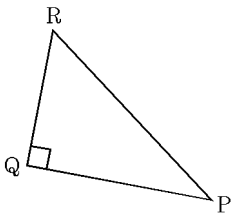
B. $\cos 25° = \frac{19}{x}$

C. $\tan 25° = \frac{19}{y}$

D. $361 + y^2 = x^2$

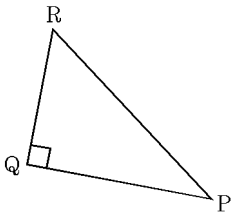


26. In the triangle below, $\cos R = \frac{3}{5}$. Find $\sin P$.



A. $\frac{3}{4}$ B. $\frac{3}{5}$ C. $\frac{4}{5}$ D. $\frac{5}{4}$

27. In the triangle below, $\sin P = \frac{5}{13}$. Find $\cos R$.



A. $\frac{12}{13}$ B. $\frac{5}{12}$ C. $\frac{13}{12}$ D. $\frac{5}{13}$

28. Which of these pairs of triangles must be similar?

A. two right triangles where the length of each hypotenuse is 5

B. two isosceles triangles with two pairs of corresponding congruent sides

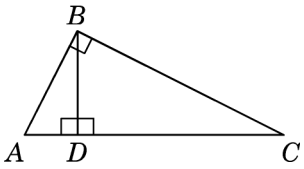
C. two right triangles, one whose sides are in the ratio $3:4:5$ and the other $12:16:20$

D. two triangles, one with sides $2x$, $3y$ and $3z$, and the other with sides $2x$, y, and z

29. In $\triangle ABC$, $AC = 10$, $BC = 8$, $m\angle B = 90^\circ$ and $m\angle BDA = 90^\circ$. How long is $\overline{AD}$?

A. 3.6 B. 4

C. 5.4 D. 9



30. Which of the following ratios is equivalent to $\frac{1}{\cos}$?

A. $\frac{\text{opposite}}{\text{hypotenuse}}$ B. $\frac{\text{hypotenuse}}{\text{adjacent}}$

C. $\frac{\text{hypotenuse}}{\text{opposite}}$ D. $\frac{\text{opposite}}{\text{adjacent}}$

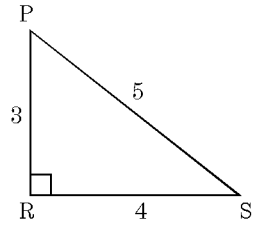
31. Which of the following statements is *incorrect* for the given diagram?

A. $\sin S = \frac{3}{5}$

B. $\cos S = \frac{4}{5}$

C. $\tan P = \frac{4}{3}$

D. $\tan S = \frac{5}{4}$



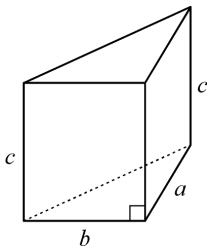
32. Which of the following ratios is the tangent of an angle?

A. $\frac{\text{hypotenuse}}{\text{adjacent}}$ B. $\frac{\text{adjacent}}{\text{hypotenuse}}$

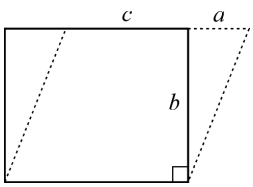
C. $\frac{\text{hypotenuse}}{\text{opposite}}$ D. $\frac{\text{opposite}}{\text{adjacent}}$

33. Which of the following figures is useful for proving the Pythagorean theorem?

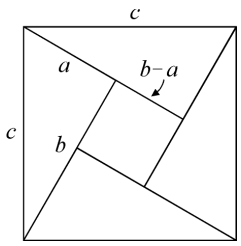
A.



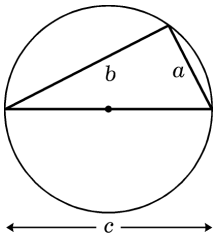
B.



C.



D.



GEOMETRY Math 2 EOC Review (10) 5/21/2018

1.
Answer: D
Objective: G.CO.2

2.
Answer: D
Objective: G.CO.2

3.
Answer: C
Objective: G.CO.2

4.
Answer: A
Objective: G.CO.2

5.
Answer: D
Objective: G.CO.3

6.
Answer: B
Objective: G.CO.3

7.
Answer: B
Objective: G.CO.3

8.
Answer: D
Objective: G.CO.3

9.
Answer: B
Objective: G.CO.4

10.
Answer: B
Objective: G.CO.5

11.
Answer: D
Objective: G.CO.5

12.
Answer: A
Objective: G.CO.5

13.
Answer: A
Objective: G.CO.6

14.
Answer: A
Objective: G.CO.7

15.
Answer: A
Objective: G.CO.8

16.
Answer: B
Objective: G.CO.8

17.
Answer: D
Objective: G.CO.8

18.
Answer: C
Objective: G.CO.8

19.
Answer: C
Objective: G.CO.9

20.
Answer: C
Objective: G.CO.9

21.
Answer: D
Objective: G.CO.9

22.
Answer: C
Objective: G.CO.9

23.
Answer: B
Objective: G.SRT.8

24.
Answer: D
Objective: G.SRT.6

25.
Answer: B
Objective: G.SRT.6

26.
Answer: B
Objective: G.SRT.7

27.
Answer: D
Objective: G.SRT.7

28.
Answer: C
Objective: G.SRT.2

29.
Answer: A
Objective: G.SRT.8

30.
Answer: B
Objective: G.SRT.6

31.
Answer: D
Objective: G.SRT.6

32.
Answer: D
Objective: G.SRT.6

33.
Answer: C
Objective: G.SRT.4