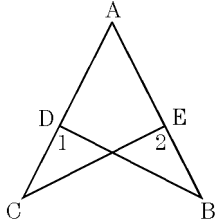


GEOMETRY Math 3 EOC Review

Congruence

1. Given: $AB = AC$ and $m\angle 1 = m\angle 2$

Prove: $BE = CD$

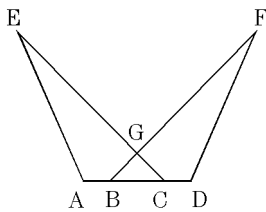


Which triangle congruence case is required for the proof?

- A. SSS B. SSA C. SAA D. ASA

2. Given: $\triangle BCG$ is isosceles,
 $BG = CG$,
 $AB = CD$,
 $EC = FB$

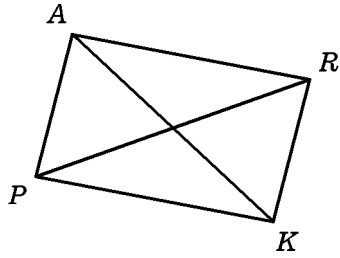
Prove: $m\angle E = m\angle F$



Which triangle congruence case is required for the proof?

- A. SAA B. ASA C. SAS D. SSS

3.



Quadrilateral $PARK$ is a parallelogram with $\angle PAK$ complementary to $\angle KAR$.

Which of the following statements is true?

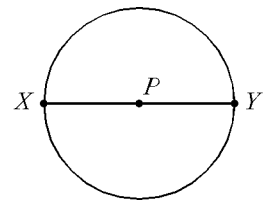
- I. Quadrilateral $PARK$ is a rhombus
- II. Quadrilateral $PARK$ is a square
- III. Quadrilateral $PARK$ is a rectangle

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

Circles

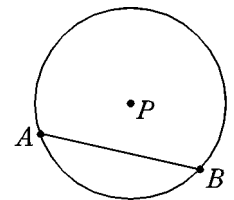
4. In circle P , \overline{XY} is a _____.

- A. radius
- B. diameter
- C. chord
- D. circumference

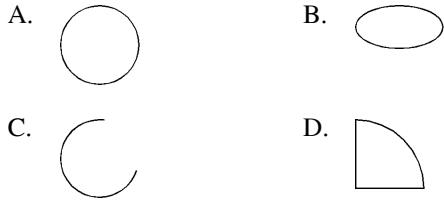


5. In circle P , \overline{AB} is a _____.

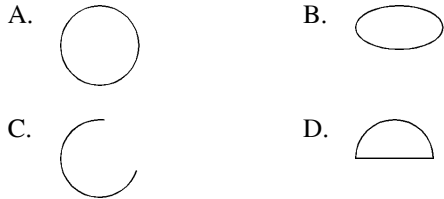
- A. diameter
- B. radius
- C. circumference
- D. chord



6. Which of the following is an arc?



7. Which of the following appears to be a semicircle?



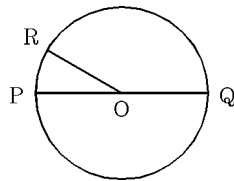
8. Which of the following statements, if any, are true about a circle?

- I. They are a type of polygon.
- II. The length of the diameter is twice the radius.
- III. All of their radii are congruent.

- A. III only
- B. I and II
- C. II and III
- D. none of the statements are true

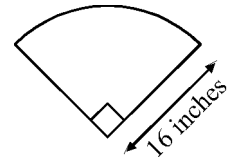
9. Given the circle with center O and with $m\angle ROQ = 150^\circ$, find the measure of minor arc \widehat{PR} .

- A. 15°
- B. 30°
- C. 60°
- D. 75°



10. A decorative window is in the shape of a quarter circle. What is the approximate area of the pane of glass in the window? [Use $\pi \approx 3.14$.]

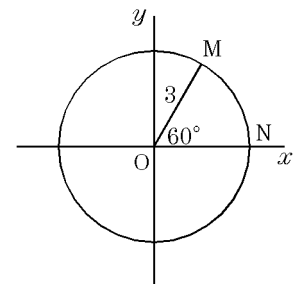
- A. 75 in^2
- B. 100 in^2
- C. 200 in^2
- D. 250 in^2



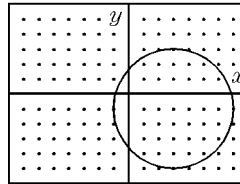
Expressing Geometric Properties with Equations

11. What is the equation of the circle shown below?

- A. $x + y = 3$
- B. $x + y = 9$
- C. $x^2 + y^2 = 3$
- D. $x^2 + y^2 = 9$

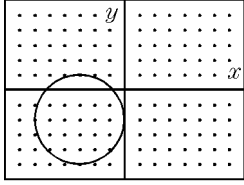


12. What is the equation the given circle?



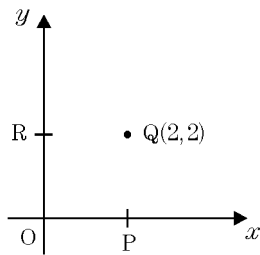
- A. $(x - 3)^2 + (y + 1)^2 = 16$
- B. $(x - 3)^2 + (y - 1)^2 = 4$
- C. $(x + 3)^2 + (y - 1)^2 = 16$
- D. $(x + 3)^2 + (y - 1)^2 = 4$

13. What is the equation the given circle?



- A. $(x - 3)^2 + (y + 2)^2 = 6$
 B. $(x - 3)^2 + (y - 2)^2 = 9$
 C. $(x + 3)^2 + (y - 2)^2 = 3$
 D. $(x + 3)^2 + (y + 2)^2 = 9$

14. What is the equation of the circle that has \overline{OQ} as its diameter and points $P(2, 0)$, $Q(2, 2)$, and $R(0, 2)$?



- A. $x^2 + y^2 = 16$
 B. $(x - 1)^2 + (y - 1)^2 = 16$
 C. $(x - 1)^2 + (y - 1)^2 = 2$
 D. $x^2 + y^2 = 2$

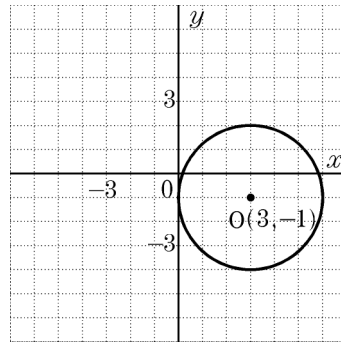
15. What is the equation of the circle that has \overline{OQ} as its diameter and points $P(2, 0)$, $Q(2, 2)$, and $R(0, 2)$?

- A. $x^2 + y^2 = 16$
 B. $(x - 1)^2 + (y - 1)^2 = 16$
 C. $(x - 1)^2 + (y - 1)^2 = 4$
 D. $(x - 1)^2 + (y - 1)^2 = 2$

16. What is the equation of the circle that has \overline{OQ} as its diameter and points $P(2, 0)$, $Q(2, 2)$, and $R(0, 2)$?

- A. $(x - 1)^2 + (y - 1)^2 = 16$
 B. $(x - 1)^2 + (y - 1)^2 = 4$
 C. $(x - 1)^2 + (y - 1)^2 = 2$
 D. $x^2 + y^2 = 2$

17. Write the equation for the circle.



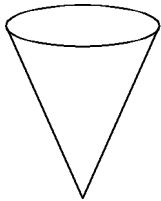
- A. $(x + 3)^2 + (y - 1)^2 = 9$
 B. $(x - 3)^2 + (y + 1)^2 = \sqrt{3}$
 C. $(x + 3)^2 + (y - 1)^2 = \sqrt{3}$
 D. $(x - 3)^2 + (y + 1)^2 = 9$

18. What is the equation of the parabola with vertex $(-3, 4)$, that opens down, and is congruent to $y = \frac{1}{4}x^2$?

- A. $y = -\frac{1}{4}(x - 3)^2 + 4$ B. $y = -\frac{1}{4}(x + 3)^2 + 4$
 C. $y = -\frac{1}{4}(x + 3)^2 - 4$ D. $y = \frac{1}{4}(x - 3)^2 + 4$

Geometric Measurement and Dimension

19. If you cut this object in half horizontally, what shape could result?

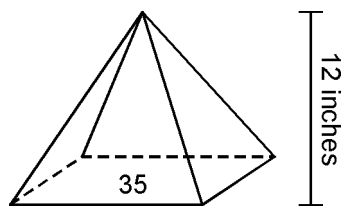


- A. B. C. D.

20. Cutting a cone _____ gives a cross section of a circle.

- A. parallel to its side
 B. parallel to its base
 C. perpendicular to its base
 D. none of these

21. Steven purchased a box of chocolate shaped like the one shown in the diagram. The box is 12 inches tall and the area of the bottom of the box is 35 square inches. Which expression can be used to find how much chocolate the box holds?

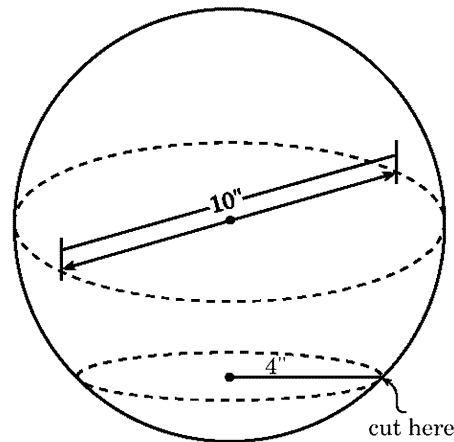


- A. 12×35 B. $35^2 \times 12$
 C. $(35^2 \times 12) \div 3$ D. $12 \times 35 \times \frac{1}{3}$

22. A pyramid has a volume of 250 cm^3 . What would be the volume of a rectangular prism with the same base and height as the pyramid?

- A. 125 cm^3 B. 500 cm^3 C. 750 cm^3
 D. cannot be determined

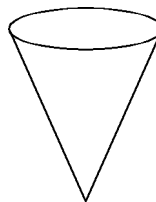
23. A spherical foam ball, 10 inches in diameter, is used to make a tabletop decoration for a party. To make the decoration sit flat on a table, a horizontal slice is removed from the bottom of the ball, as shown here:



The radius of the flat surface formed by the cut is 4 inches. What is the approximate height of the decoration?

- A. 10 in B. 8 in C. 6 in D. 4 in

24. If you cut this object in half vertically, what shape could result?

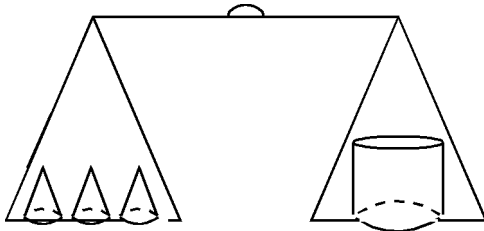


- A. B. C. D.

25. A cylinder has a volume of 216 cm^3 . By what factor must the dimensions of the cylinder be multiplied to give a similar cylinder and reduce the volume by 208 cm^3 ?

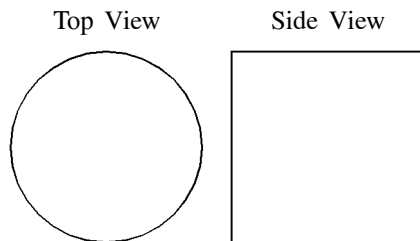
- A. $\frac{1}{9}$ B. $\frac{1}{4}$ C. $\frac{1}{3}$ D. $\frac{1}{2}$

26. Three solid cones ($V = \frac{1}{3}(\text{Area of base} \times \text{height})$) are on one side of a balance. A solid cylinder ($V = \text{Area of Base} \times \text{height}$) is on the other side. All have the same radius and are made of the same material. The cones and the cylinder are the same height. Which side is heavier?



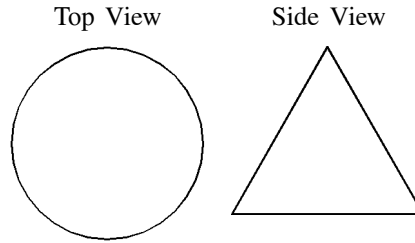
- A. The cylinder side is lighter.
 B. The cylinder side is slightly heavier.
 C. The cylinder side is much heavier.
 D. They are the same.

27. What is the 3-dimensional figure shown?



- A. cylinder B. cone
 C. triangular pyramid D. triangular prism

28. What is the 3-dimensional figure shown?



- A. cylinder B. cone
 C. triangular pyramid D. triangular prism

Modeling with Geometry

29. The Leaning Tower of Pisa most closely resembles which geometric solid?

- A. triangular prism
 B. cylinder
 C. square-based pyramid
 D. cone

30. The Flatiron Building mostly closely resembles which geometric solid?

- A. triangular prism
 B. cylinder
 C. square-based pyramid
 D. cone

GEOMETRY Math 3 EOC Review 5/17/2019

1.
Answer: D
Objective: G.CO.10
Points: 1
2.
Answer: C
Objective: G.CO.10
Points: 1
3.
Answer: C
Objective: G.CO.11
Points: 1
4.
Answer: B
Objective: G.C.2
Points: 1
5.
Answer: D
Objective: G.C.2
Points: 1
6.
Answer: C
Objective: G.C.2
Points: 1
7.
Answer: D
Objective: G.C.2
Points: 1
8.
Answer: C
Objective: G.C.2
Points: 1
9.
Answer: B
Objective: G.C.5
Points: 1
10.
Answer: C
Objective: G.C.5
Points: 1
11.
Answer: D
Objective: G.GPE.1
Points: 1

12.
Answer: A
Objective: G.GPE.1
Points: 1
13.
Answer: D
Objective: G.GPE.1
Points: 1
14.
Answer: C
Objective: G.GPE.1
Points: 1
15.
Answer: D
Objective: G.GPE.1
Points: 1
16.
Answer: C
Objective: G.GPE.1
Points: 1
17.
Answer: D
Objective: G.GPE.1
Points: 1
18.
Answer: B
Objective: G.GPE.2
Points: 1
19.
Answer: D
Objective: G.GMD.4
Points: 1
20.
Answer: B
Objective: G.GMD.4
Points: 1
21.
Answer: D
Objective: G.GMD.3
Points: 1
22.
Answer: C
Objective: G.GMD.3
Points: 1

23.
Answer: B
Objective: G.GMD.3
Points: 1
24.
Answer: C
Objective: G.GMD.4
Points: 1
25.
Answer: C
Objective: G.GMD.3
Points: 1
26.
Answer: D
Objective: G.GMD.3
Points: 1
27.
Answer: A
Objective: G.GMD.4
Points: 1
28.
Answer: B
Objective: G.GMD.4
Points: 1
29.
Answer: B
Objective: G.MG.1
Points: 1
30.
Answer: A
Objective: G.MG.1
Points: 1