

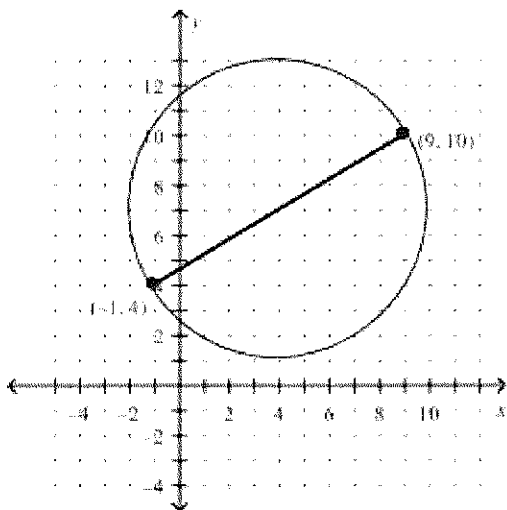
Geometry EOC Practice Test

MA.912.G.1.1

1. Kelvin is at his house located at $(3, 4)$ on a coordinate plane and walks to the store located at $(1, 0)$. The store is located exactly half way between Kelvin's house and Mitch's house. To the nearest tenth, what is the distance between Kelvin's house and Mitch's house?

- A. 4.2
- B. 4.5
- C. 5.7
- D. 8.9

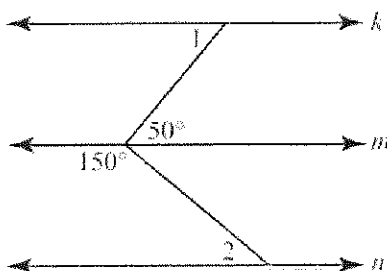
2. A circular sidewalk is being constructed around the perimeter of a local park. A brick pathway will be added through the diameter of the circle as shown on the coordinate plane below, and a tree will be planted in the sidewalk at the center of the circle. What is the x -coordinate where the tree will be planted?



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MA.912.G.1.3

3. In the figure below, lines k , m , and n are parallel.



What is the sum of $m\angle 1$ and $m\angle 2$?

- A. 80°
- B. 100°
- C. 180°
- D. 200°

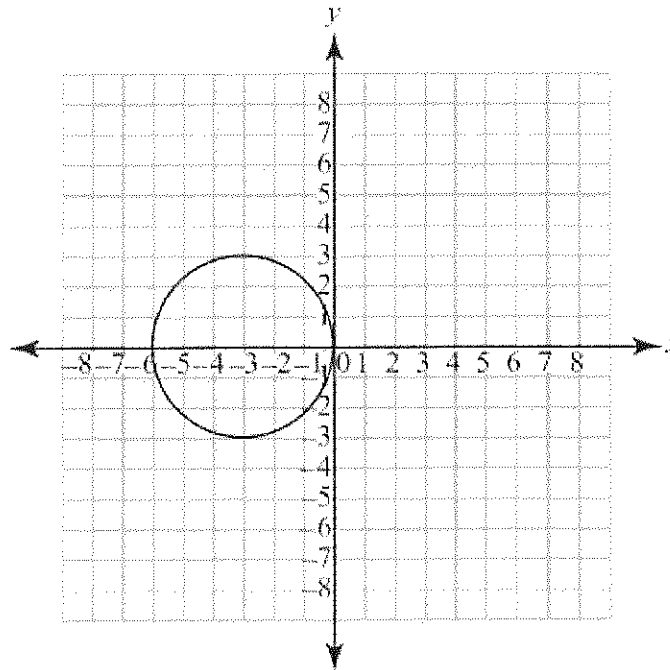
MA.912.G.2.2

4. What regular polygon has an exterior angle that measures 60 degrees?

- A. Square
- B. Regular hexagon
- C. Regular pentagon
- D. Equilateral triangle

MA.912.G. 6.6

5. Which is the equation of the circle shown below?



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

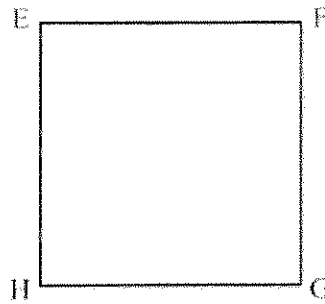
MA.912.G.7.5

6. A solid-glass sphere is cast with a radius of 30 cm. What is the volume, to the nearest whole number, of this sphere?

- A. 3,768 cm^3
- B. 63,585 cm^3
- C. 113,040 cm^3
- D. 339,120 cm^3

MA.912.G.3.3

7. You are trying to prove that quadrilateral $EFGH$ is a square. You have already proven that all four sides are congruent.

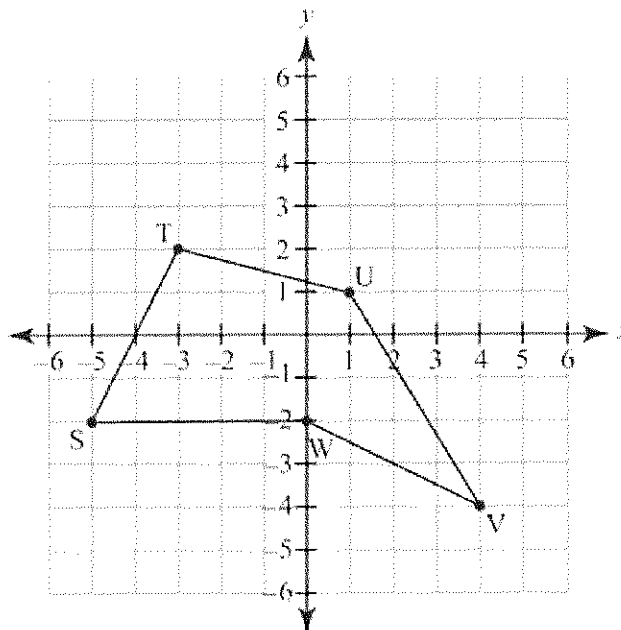


Which statement, if true, would prove that $EFGH$ is a square?

- A. The diagonals are congruent.
- B. The opposite sides are congruent.
- C. The opposite angles are congruent.
- D. The adjacent angles are supplementary.

MA.912.G.2.4

8. Polygon $STUVW$ is shown below.

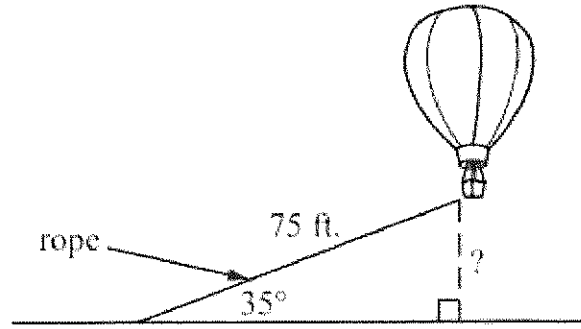


After polygon $STUVW$ is reflected across the y -axis, what are the coordinates of S' , the image of point S after the transformation?

- A. $(-5, -2)$
- B. $(-5, 2)$
- C. $(5, -2)$
- D. $(5, 2)$

MA.912.T.2.1

9. A rope is tied to the bottom of a hot air balloon as shown below. The rope makes an angle of 35° with the ground and is 75 ft. long. How far is the bottom of the balloon from the ground to the nearest foot?

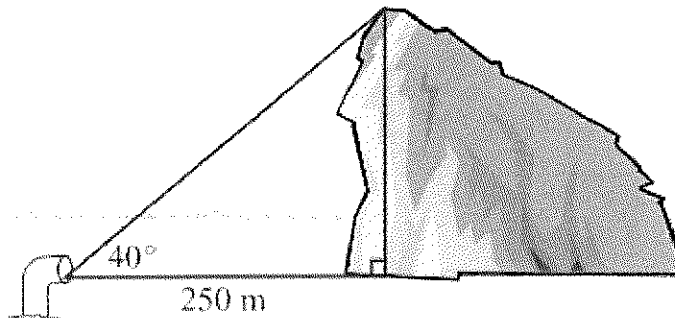


(Not drawn to scale.)

- A. 43 ft.
- B. 53 ft.
- C. 61 ft.
- D. 131 ft.

MA.912.T.2.1

10. The captain of a submarine views an iceberg from his periscope, as shown in the figure below.

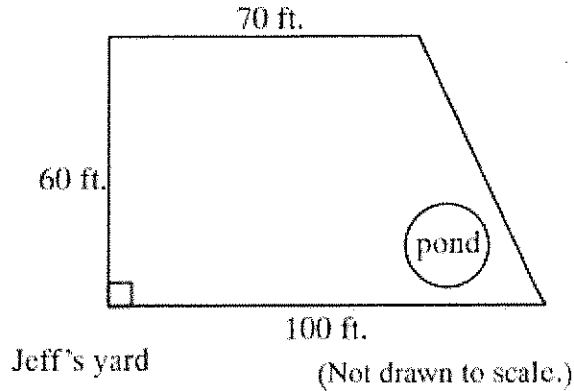


What is the height of the iceberg to the nearest meter?

- A. 161 m
- B. 192 m
- C. 210 m
- D. 298 m

MA.912.G.2.5

11. Below is a drawing of Jeff's yard. There is a circular fish pond near one corner. The diameter of the pond is 12 ft. How many square feet of grass are necessary to cover everything except the pond in Jeff's yard?



- A. $4,648 \text{ ft}^2$
- B. $4,987 \text{ ft}^2$
- C. $5,548 \text{ ft}^2$
- D. $5,887 \text{ ft}^2$

MA.912.D.6.2

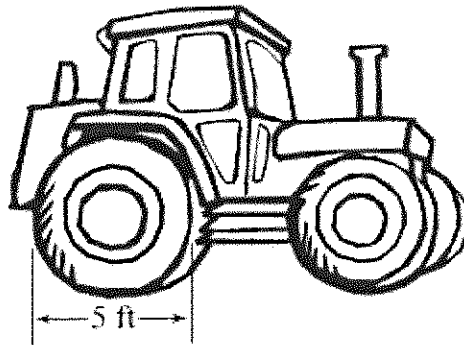
12. What is the converse of this statement?

If a road sign is red, then it is a stop sign.

- A. If a road sign is a stop sign, then it is red
- B. If a road sign is not a stop sign, then it is not red.
- C. If a road sign is not red, then it is not a stop sign.
- D. If a stop sign is red, then it is a road sign.

MA.912.G.6.5

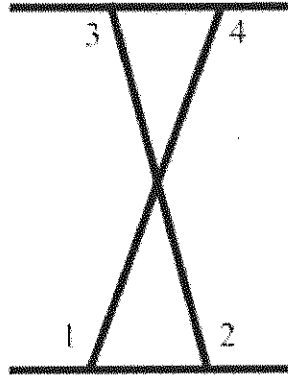
13. The diameter of a tractor tire is 5 feet. Rounded to the nearest hundredth, how far will the tractor move when the wheel rotates once?



- A. 7.85 ft.
- B. 15.70 ft.
- C. 19.63 ft.
- D. 78.50 ft.

MA.912.G.1.3

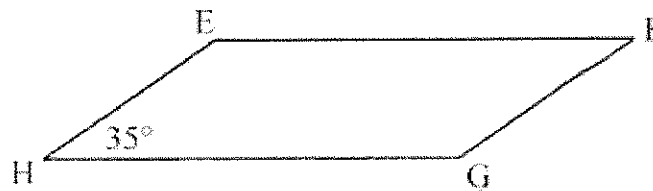
14. An engineer designed a steel beam, shown below. The horizontal parts that form the top and bottom are parallel. To build the cross pieces, the engineer needs to know the measure of the angles shown. The measure of $\angle 1 = 110$ degrees and $m\angle 2 = 105$ degrees. What are the measures of $\angle 3$ and $\angle 4$?



- A. $m\angle 3 = 70^\circ, m\angle 4 = 65^\circ$
 B. $m\angle 3 = 65^\circ, m\angle 4 = 70^\circ$
 C. $m\angle 3 = 110^\circ, m\angle 4 = 105^\circ$
 D. $m\angle 3 = 105^\circ, m\angle 4 = 110^\circ$

MA.912.G.3.4

15. What is the measure of $\angle E$ in the parallelogram below?



- A. 35°
 B. 55°
 C. 145°
 D. 155°

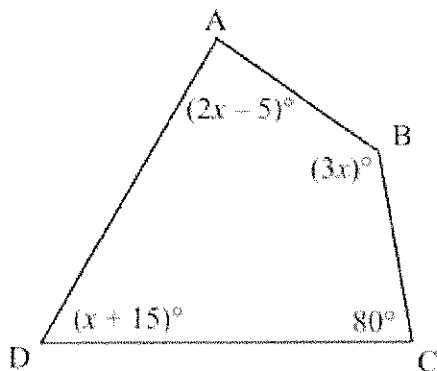
MA.912.G.2.3

16. A meter stick is held perpendicular to the ground. It forms a shadow that is 1.8 m long. At the same time, a flagpole forms a shadow that is 7.2 m long. How tall is the flagpole?

- A. 0.25 m
 B. 4 m
 C. 9 m
 D. 12.96 m

MA.912.G.2.2

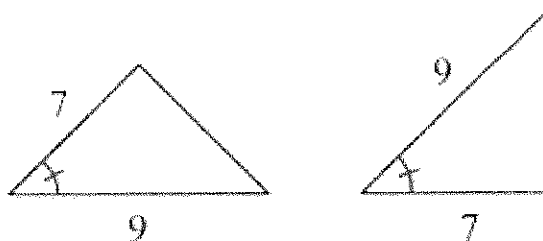
17. Figure $ABCD$ below is a quadrilateral. What is the value of x ?



- A. 15
- B. 40
- C. 45
- D. 65

MA.912.G.2.3

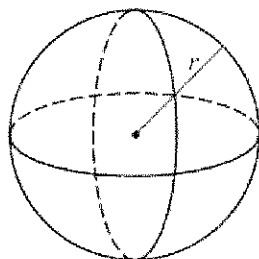
18. Which theorem can be used to show that the two triangles below are congruent?



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

MA.912.G.7.7

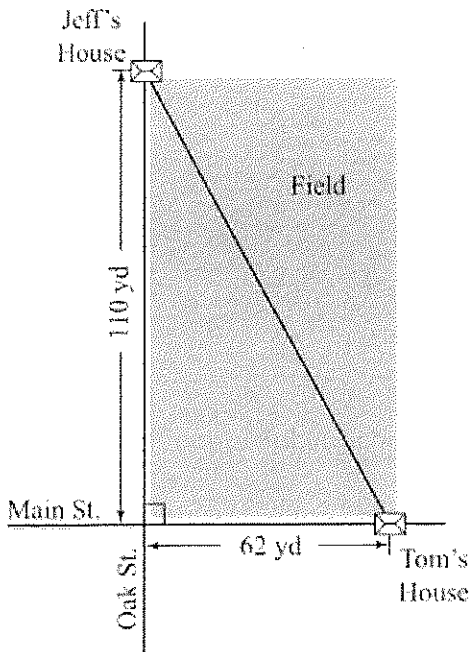
19. The surface area of the sphere below is $4\pi^2$. If the radius were to be divided by 2, how would the surface area be affected?



- A. The surface area would be 16 times smaller.
- B. The surface area would be 8 times smaller.
- C. The surface area would be 4 times smaller.
- D. The surface area would be 2 times smaller.

MA.912.G.5.4

20. Jeff lives on Oak Street, and Tom lives on Main Street.

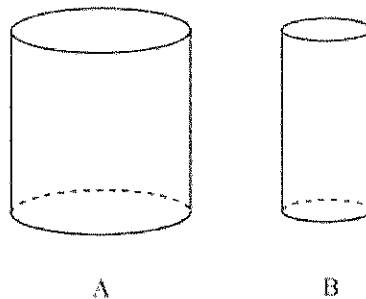


How much farther, to the nearest yard, is it for Tom to walk down Main Street and turn on Oak Street to get to Jeff's house than if he travels the shortest distance between the houses through an empty field?

- A. 46 yd
- B. 48 yd
- C. 126 yd
- D. 172 yd

MA.912.G.7.7

21. Cylinders A and B have the same height. The radius of cylinder A is twice the radius of cylinder B.

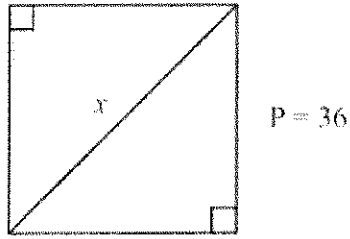


How does the volume of cylinder A compare to the volume of cylinder B?

- A. Cylinder A has $\frac{1}{2}$ the volume of cylinder B.
- B. Cylinder A has twice the volume of cylinder B.
- C. Cylinder A has 4 times the volume of cylinder B.
- D. Cylinder A has 8 times the volume of cylinder B.

MA.912.G.5.4

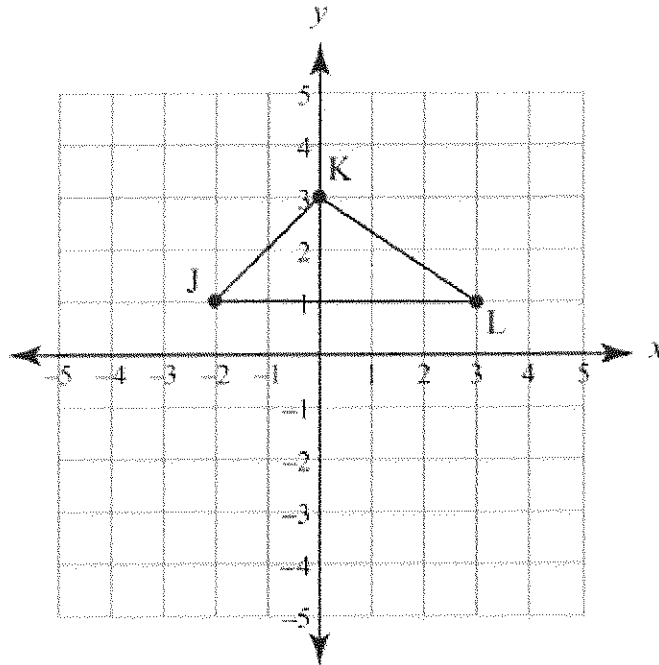
22. The perimeter of the square below is 36. What is the length of the diagonal, x ?



- A. 6
- B. 9
- C. $6\sqrt{2}$
- D. $9\sqrt{2}$

MA.912.G.2.4

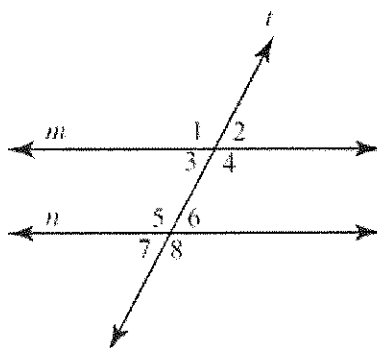
23. Triangle JKL is translated 4 units left and 5 units up. What are the coordinates of the image of point J?



- A. (2, 6)
- B. (3, -3)
- C. (-6, 6)
- D. (-2, 6)

MA.912.G.1.3

24. Two parallel lines, m and n , are cut by a transversal, t , as shown in the figure below.



If $m\angle 2 = 2x + 7$ and $m\angle 7 = 3x - 13$, what is the measure of $\angle 7$?

- A. 20
- B. 37
- C. 47
- D. 133

MA.912.G.3.4

25. The following information is known about the quadrilateral $ABCD$:

- \overline{BC} is parallel to \overline{AD} .
- \overline{AB} is not congruent to \overline{CD} .
- $\angle CDA$ is a right angle.

Which must be true of quadrilateral $ABCD$?

- A. $ABCD$ is a rhombus.
- B. $ABCD$ is a rectangle.
- C. $ABCD$ is a trapezoid.
- D. $ABCD$ is a parallelogram.

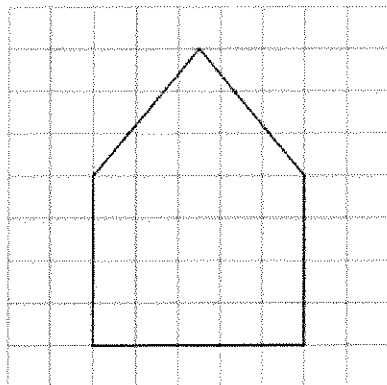
MA.912.G.2.5

26. How much paper is needed to cover a rectangular bulletin board that is 29 in. wide and 37 in. high?

- A. 132 in^2
- B. 536.5 in^2
- C. 957 in^2
- D. $1,073 \text{ in}^2$

MA.912.G.2.5

27. A scale drawing of the side of a house is shown below. What is the best estimate of the area of the side of the house?

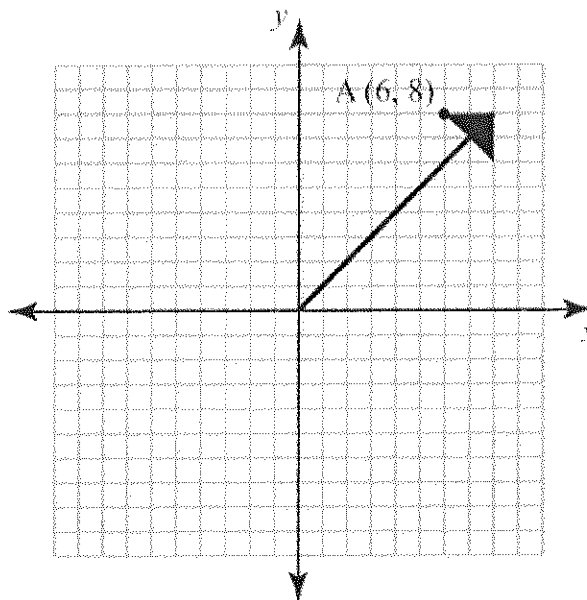


$\square = 36 \text{ ft.}^2$

- A. 700 ft^2
- B. 850 ft^2
- C. $1,000 \text{ ft}^2$
- D. $1,250 \text{ ft}^2$

MA.912.G.2.4

28. The arrow above represents the needle on a compass. The needle is rotated 180° in the clockwise direction. What are the coordinates of point A after the rotation?

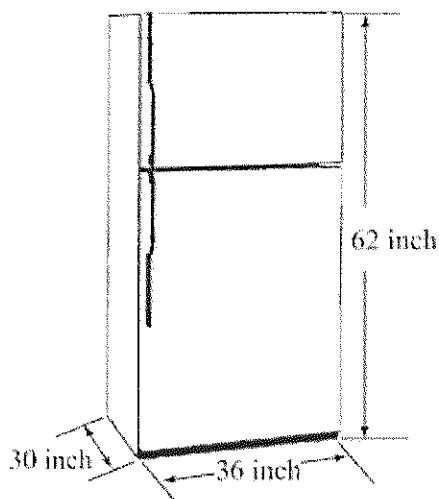


- A. $(-8, -6)$
- B. $(-8, 6)$
- C. $(-6, -8)$
- D. $(6, -8)$

MA.912.G.7.7

29. Frances bought a new refrigerator to replace her old refrigerator shown above. Her new refrigerator has the same length and width as the old refrigerator, but is 8 inches higher. How many more cubic inches of space are in Frances's new refrigerator compared to her old refrigerator?

Frances' Old Refrigerator



(Not drawn to scale.)

- A. 8,640
- B. 14,880
- C. 17,856
- D. 25,440

MA.912.G.7.5

30. A cereal box is 10.4 inches high, 7.4 inches long, and 2.3 inches wide. What is the volume of the cereal box rounded to the nearest cubic inch?

- A. 77
- B. 140
- C. 177
- D. 236

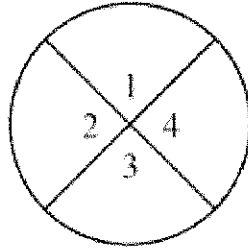
MA.912.G.4.7

31. John measured the sides of four triangles. He measured the side lengths of one triangle incorrectly. Which triangle was measured incorrectly?

- A. $\triangle A$, with sides measuring 6, 6, and 15
- B. $\triangle B$, with sides measuring 8, 9, and 10
- C. $\triangle C$, with sides measuring 1, 18, and 18
- D. $\triangle D$, with sides measuring 11, 15, and 24

MA.912.G.8.4

32. Mari created the circular window represented below. She knew that $\angle 1$ and $\angle 2$ were supplementary and that $\angle 1 \cong \angle 3$ because they were vertical angles. What must be true about $\angle 2$ and $\angle 3$?

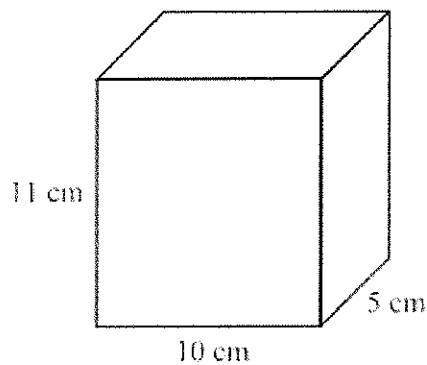


(Not drawn to scale.)

- A. $\angle 2 \cong \angle 3$
 B. $\angle 2$ is complementary to $\angle 3$
 C. $\angle 2$ is supplementary to $\angle 3$
 D. $\angle 2$ and $\angle 3$ are both right angles

MA.912.G.7.5

33. A company is planning to sell juice in boxes represented by the figure shown below. What is the total surface area of the box?



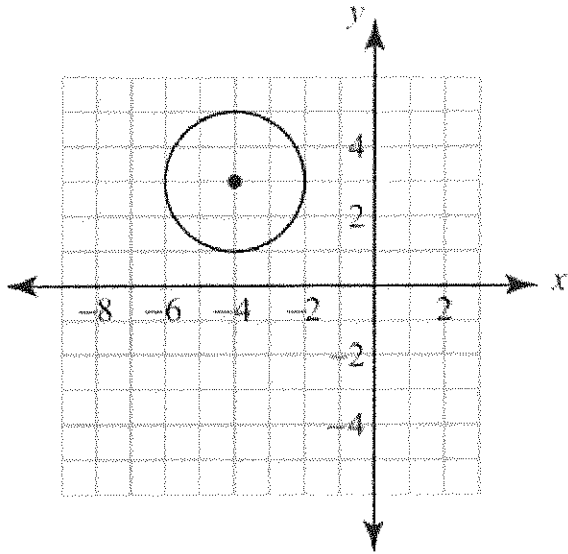
(Not drawn to scale.)

- A. 330 cm^2
 B. 380 cm^2
 C. 430 cm^2
 D. 550 cm^2

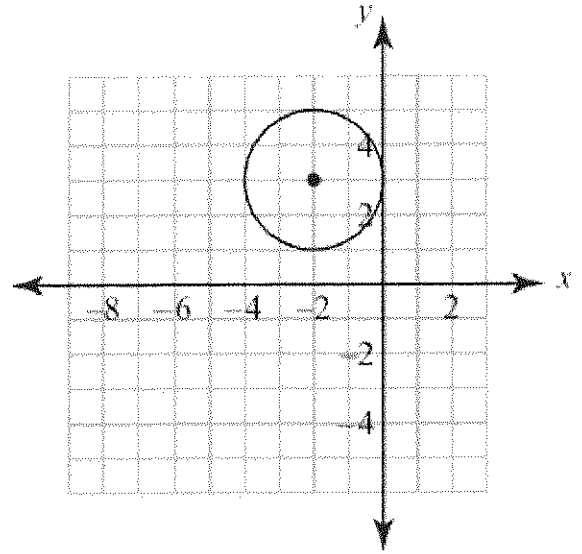
MA.912.G.6.6

34. The equation of a circle is $(x + 2)^2 + (y + 3)^2 = 4$. Which represents this equation?

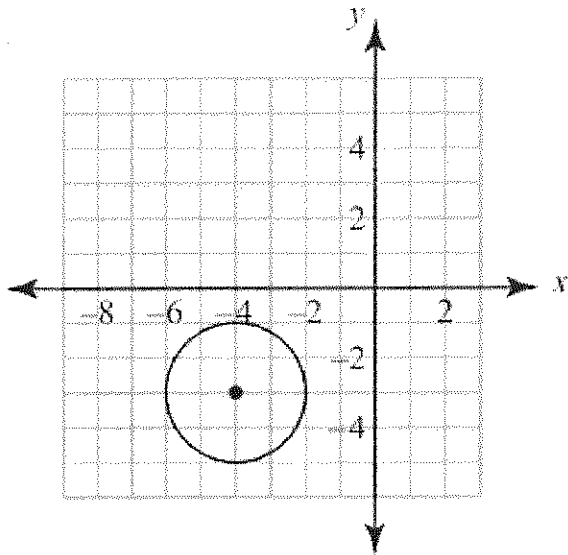
A.



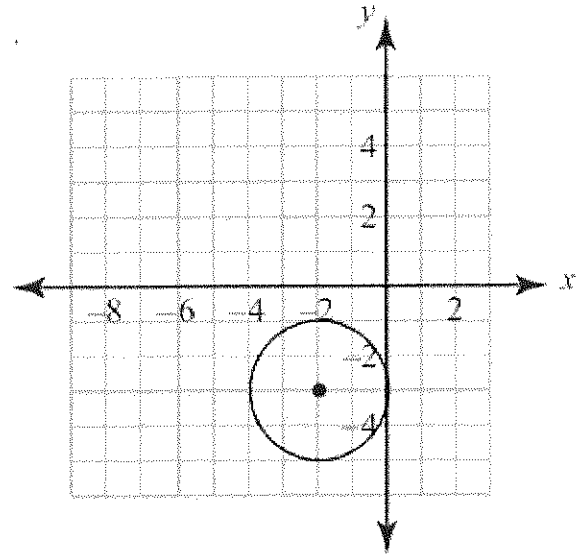
B.



C.



D.



MA.912.G.2.2

35. Joe's garden is the shape of a hexagon. The measures of 5 of the angles are: 160° , 90° , 60° , 160° , and 80° . What is the measure of the remaining angle?

?

- A. 110°
- B. 120°
- C. 160°
- D. 170°