

Geometry Review Semester 2-2011

Multiple Choice

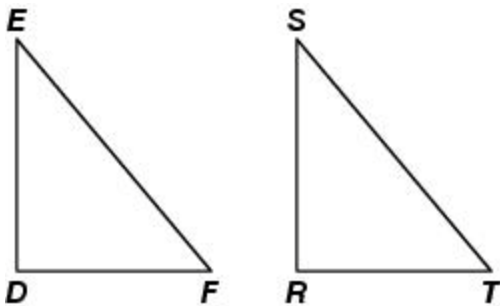
1) For two triangles $\triangle ABC$ and $\triangle DEF$, the following information is true.

$$\triangle ABC \cong \triangle DEF; AB = 4; AC = 7; BC = 9$$

What is the measure of side DF?

- a. 4
- b. 7
- c. 9
- d. 20

2) Triangle DEF is congruent to triangle RST .



If $m\angle D = 90^\circ$ and $m\angle E = 40^\circ$, what is $m\angle T$?

- a. 40°
- b. 50°
- c. 90°
- d. 130°

3) Given: $\triangle ABC \cong \triangle DEF$ and $\triangle ABC \cong \triangle QRS$.

Which of the statements below is correct?

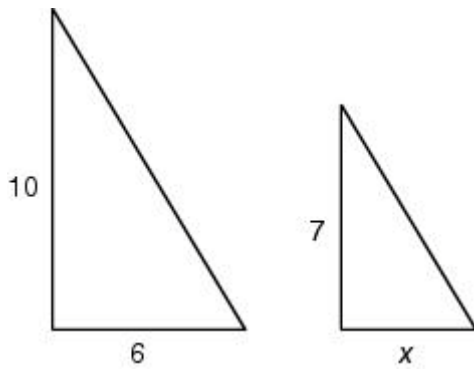
a. $\overline{AB} \cong \overline{BC}$

b. $\overline{BC} \cong \overline{QR}$

c. $\overline{QS} \cong \overline{EF}$

d. $\overline{DF} \cong \overline{QS}$

4) Use the figure below.



Given that the two triangles are similar, what is the value of x ?

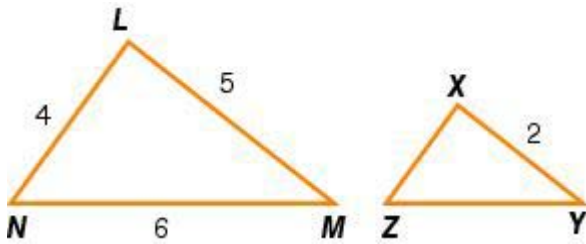
a. 3

b. 4

c. $\frac{21}{5}$

d. $\frac{35}{3}$

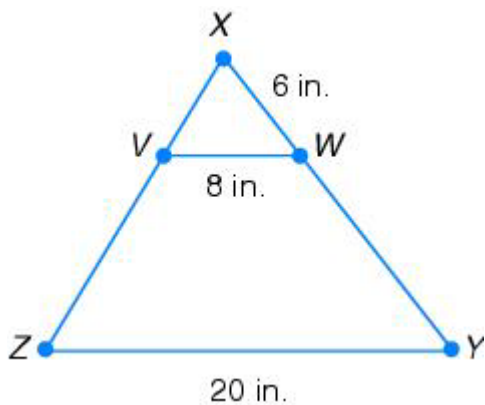
5) In the picture below, $\triangle LMN$ is similar to $\triangle XYZ$.



What is the length of \overline{YZ} ?

- a. $\overline{YZ} = 1.7$
- b. $\overline{YZ} = 2.4$
- c. $\overline{YZ} = 12$
- d. $\overline{YZ} = 15$

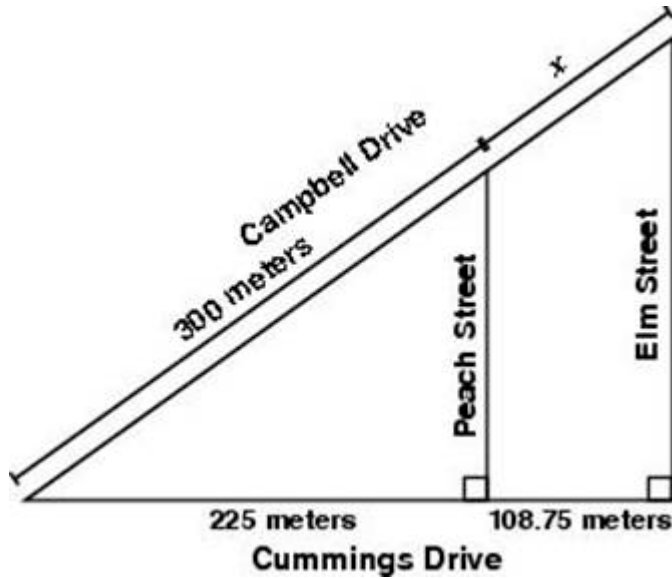
6) A pattern in a quilt is formed by similar triangles XVW and XZY shown below.



What is the length of \overline{WY} ?

- a. 9 in.
- b. 12 in.
- c. 15 in.
- d. 18 in.

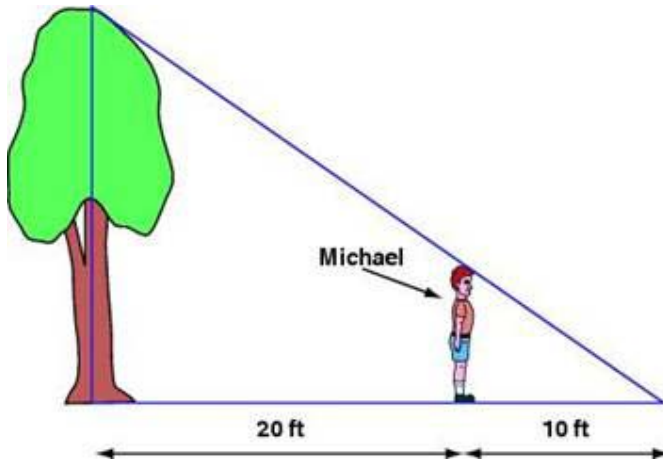
7) In this diagram, Peach Street and Elm Street are parallel streets that intersect Campbell Drive and Cummings Drive.



What is the distance (x) between Peach Street and Elm Street along Campbell Drive?

- a. 81.6 m
- b. 116.3 m
- c. 145.0 m
- d. 183.8 m

- 8) Michael is standing 20 feet from the base of a tree in direct sunlight. He is standing so that the tip of his shadow meets the tip of the tree's shadow, as shown.

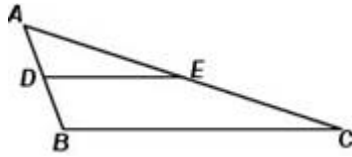


If the length of Michael's shadow is 10 feet and Michael is 6 feet 3 inches tall, what is the height of the tree?

- a. $12\frac{1}{2}$ feet
- b. $15\frac{3}{4}$ feet
- c. $18\frac{3}{4}$ feet
- d. 19 feet
- 9) Gayle placed a mirror on the ground 18 ft from the base of a tree. When she stands 4 ft away from the mirror, she can see the top of the tree reflected in the mirror. If her eyes are $4\frac{1}{2}$ ft above the ground, how tall is the tree?

- a. 16 ft
- b. $17\frac{1}{2}$ ft
- c. $18\frac{1}{2}$ ft
- d. $20\frac{1}{4}$ ft

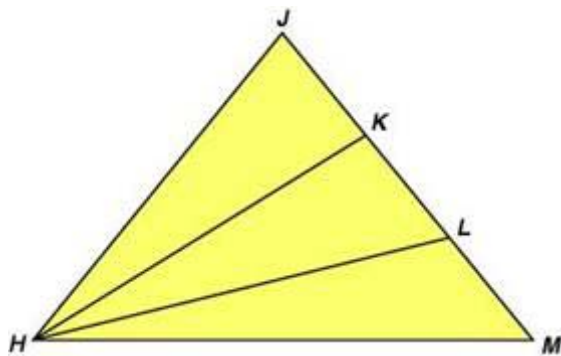
- 10) Given: D is the midpoint of \overline{AB} .
 E is the midpoint of \overline{AC} .
 $AB = 10$
 $AC = 30$
 $BC = 18$



What is the length of \overline{DE} ?

- a. 6 cm
- b. 9 cm
- c. 12 cm
- d. 15 cm

- 11) In the figure below, \overline{HK} and \overline{HL} trisect $\angle JHM$.



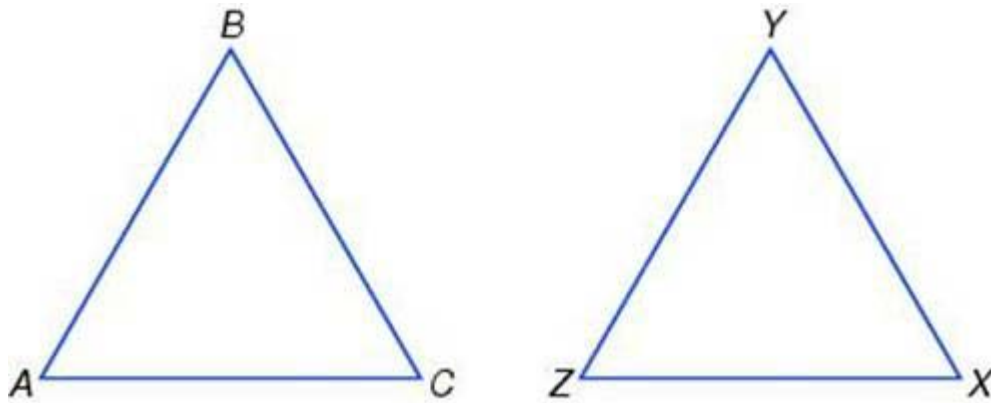
Based on this information, which of the following conclusions can be made?

- a. $\overline{HK} \cong \overline{HL} \cong \overline{JM}$
- b. $\overline{JK} \cong \overline{KL} \cong \overline{LM}$
- c. $\angle JHK \cong \angle KHL \cong \angle MHL$
- d. $\angle J \cong \angle M \cong \angle MHJ$

12) Given $\triangle ABC$ and $\triangle DEF$, and that $\overline{AC} \cong \overline{DF}$, $\overline{AB} \cong \overline{DE}$, and $\overline{BC} \cong \overline{EF}$, which postulate BEST describes how we know the two triangles are congruent?

- a. AAA
- b. AAS
- c. SAS
- d. SSS

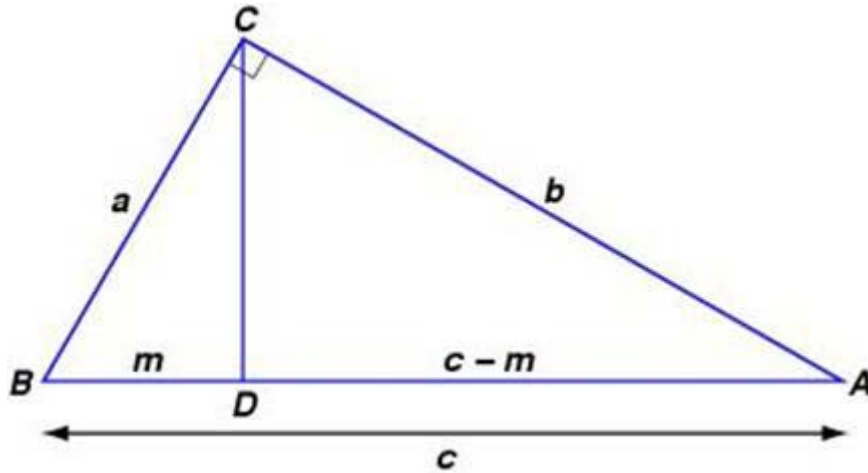
13) Given: $\triangle ABC \cong \triangle XYZ$



Using the given information, which conclusion can be made?

- a. $\angle A \cong \angle Z$
- b. $\angle B \cong \angle X$
- c. $\overline{ZX} \cong \overline{CB}$
- d. $\overline{XY} \cong \overline{AB}$

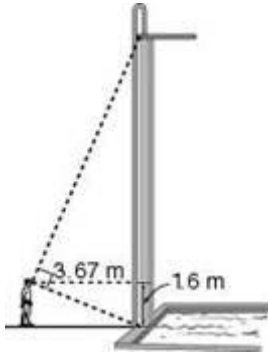
- 14) In $\triangle ABC$ below, $\angle C$ is a right angle, c is the length of the hypotenuse, a and b are the lengths of the legs, and \overline{CD} is the altitude.



Carla wants to prove that $\triangle CDA$ is similar to $\triangle BCA$. Which proportion could she use?

- a. $\frac{m}{a} = \frac{c}{a}$
- b. $\frac{m}{a} = \frac{b}{c}$
- c. $\frac{(c-m)}{b} = \frac{a}{c}$
- d. $\frac{(c-m)}{b} = \frac{b}{c}$

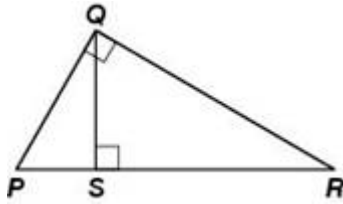
- 15) The diagram below shows a diver standing on a pool deck looking up at a diving board. The diver's line of sight from the top of the board to the pool deck forms a right angle.



Using the measurements shown in the diagram, what is the height of the board to the nearest tenth of a meter?

- a. 7.0 m
- b. 8.4 m
- c. 9.2 m
- d. 10.0 m

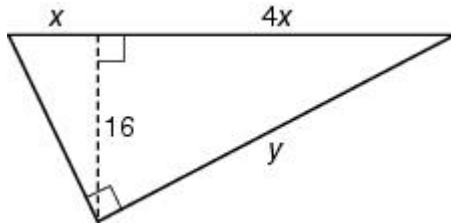
- 16) Keiko drew right triangle PQR with altitude \overline{QS} drawn to its hypotenuse.



Based on Keiko's drawing, which proportion is true?

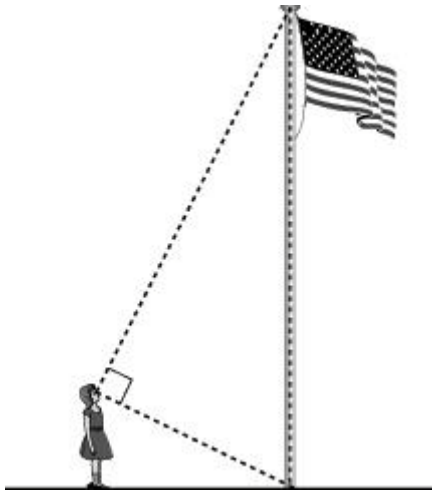
- a. $\frac{QR}{PQ} = \frac{QP}{QS}$
- b. $\frac{QS}{PS} = \frac{QR}{QS}$
- c. $\frac{PQ}{PR} = \frac{QP}{PS}$
- d. $\frac{PR}{QR} = \frac{PQ}{QS}$

17) What are the values of x and y ?



- a. $x = 8$, $y = \sqrt{320}$
- b. $x = 8$, $y = \sqrt{1280}$
- c. $x = 32$, $y = \sqrt{320}$
- d. $x = 32$, $y = \sqrt{1280}$

18) Tamika is standing in front of a flagpole. Her line of sight to the top of the flagpole is perpendicular to her line of sight to the bottom of the flagpole. Her eye level is 5 ft from the ground, and her eyes are 10 ft from the pole.



What is the height of the flagpole?

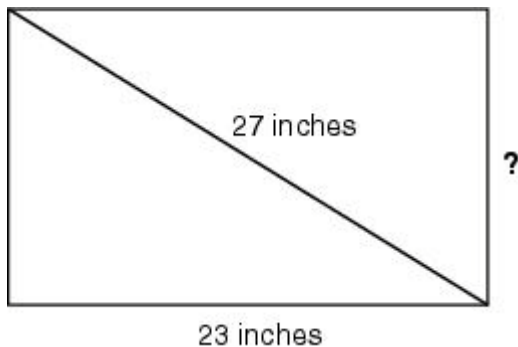
- a. 12.5 ft
- b. 20 ft
- c. 25 ft
- d. 30 ft

- 19) Albert solved the problem below and obtained the answers -5° and 95° .
“Two angles are complementary. The measure of one angle is 100° greater than the measure of the other. What are the measures of the two angles?”

Which statement is the most reasonable in the context of this problem?

- a. Albert's answers are correct because 95 is 100 more than -5 .
- b. The problem does not make sense as written and has no answer.
- c. Albert's answers are not correct because the angles are supplementary.
- d. Albert's answers are correct because the sum of the two angle measures is 90° .

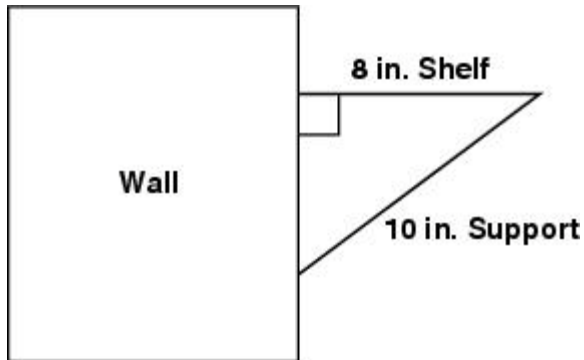
- 20) The diagram shows a rectangular television screen.



What is the height of the screen, to the nearest inch?

- a. 14
- b. 16
- c. 25
- d. 35

21) A shelf that is 8 inches deep is supported by a brace that is 10 inches long, as shown below.



Note: figure not drawn to scale.

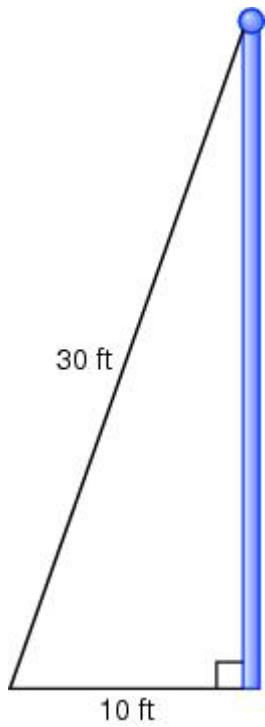
How far below the shelf will the brace be attached to the wall?

- a. 2 in.
- b. 4 in.
- c. 6 in.
- d. 9 in.

22) Shandra and John met for dinner at a restaurant. When they were done eating, Shandra drove away from the restaurant and went 5 miles due north. John drove 3 miles due east. Approximately how far apart were Shandra and John after their drives?

- a. 8 miles
- b. 6 miles
- c. 4 miles
- d. 2 miles

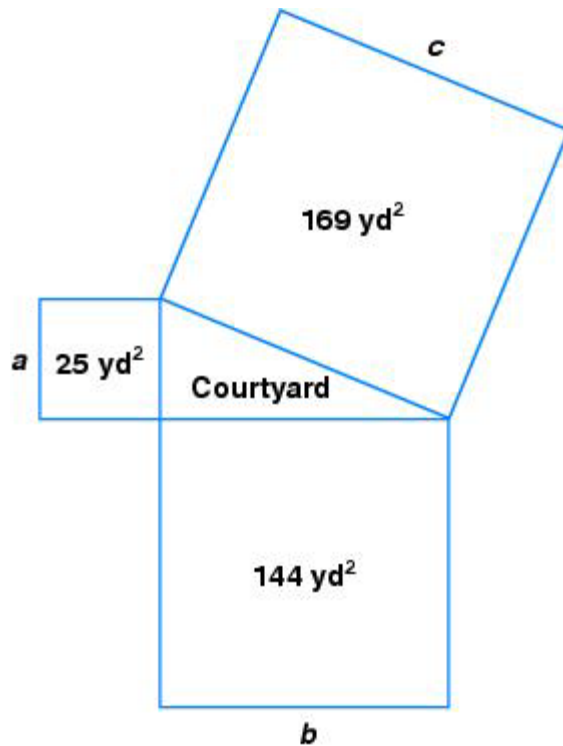
23) A 30-foot wire is needed to support a flagpole. The wire will be anchored exactly 10 feet from the base of the pole.



How tall, in feet, is the flagpole?

- a. $10\sqrt{10}$
- b. $20\sqrt{2}$
- c. $40\sqrt{2}$
- d. $50\sqrt{2}$

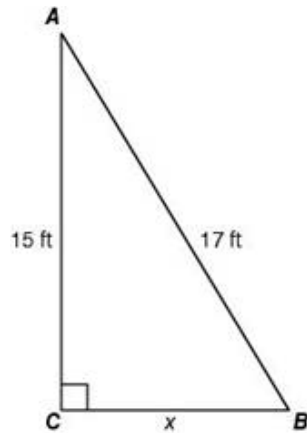
24) Dayna, Fritz, and Leo each have a square garden adjacent to a triangular courtyard, as pictured below. The area of each garden is denoted on the diagram.



Which statement proves that the courtyard is in the shape of a right triangle?

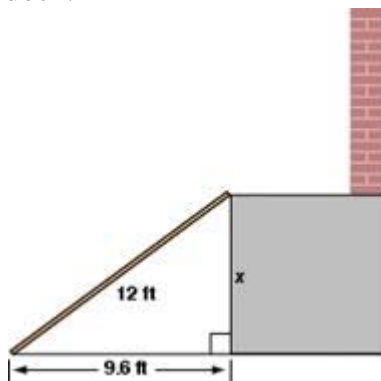
- a. $a + b = c$
- b. $a^2 + b^2 = c^2$
- c. $2(a + b) = c$
- d. $(a + b)^2 = c^2$

25) What is the length of the missing side x in the right triangle?



- a. 8 ft
- b. 10 ft
- c. 13 ft
- d. 19 ft

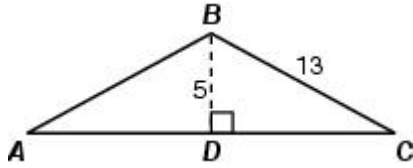
26) This diagram shows a ramp that Omega Shipping and Trucking is placing at a new loading dock.



What is the approximate distance (x) from the ground to the top of the loading dock?

- a. 21.6 ft
- b. 15.4 ft
- c. 7.2 ft
- d. 2.4 ft

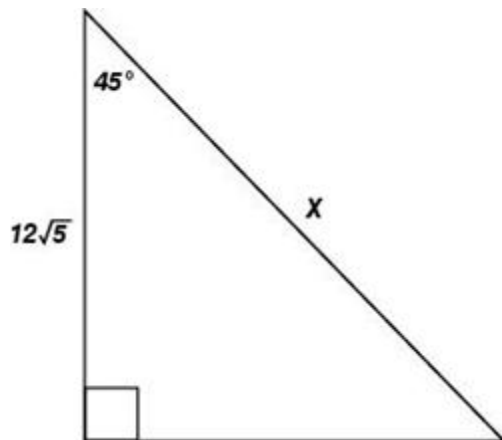
27) Given: $\triangle ABC$ is isosceles; $\angle BDC$ is a right angle



Which is the length of \overline{AC} ?

- a. 12 units
- b. 16 units
- c. 24 units
- d. 30 units

28) Solve for x .



- a. $12\sqrt{10}$
- b. $24\sqrt{5}$
- c. $12\sqrt{15}$
- d. $\frac{12\sqrt{5}}{\sqrt{2}}$

29) Which of the following are the lengths of the sides of a 30° - 60° - 90° triangle?

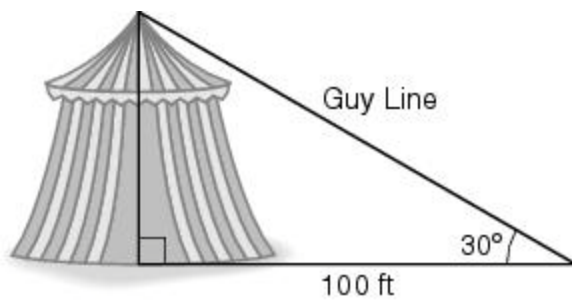
a. $z, 2z, z\sqrt{2}$

b. $z, 2z, z\sqrt{3}$

c. $z, z, z\sqrt{2}$

d. $z, 2z, 3\sqrt{z}$

30) A circus tent is supported by wires called "guy lines," as shown below.



How tall is the center pole of the circus tent?

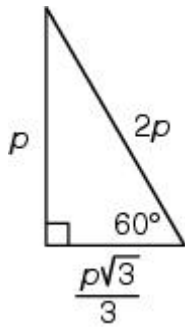
a. $\frac{100\sqrt{3}}{3}$ ft

b. 100 ft

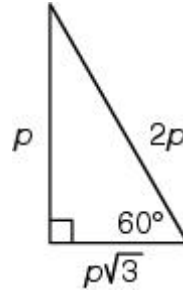
c. $100\sqrt{2}$ ft

d. $100\sqrt{3}$ ft

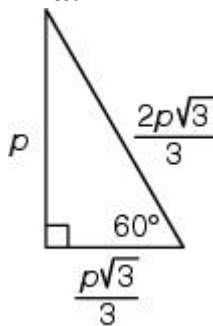
31) Which model correctly shows the relationship between the side lengths on a 30° - 60° - 90° triangle?



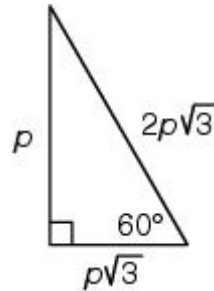
a.



c.

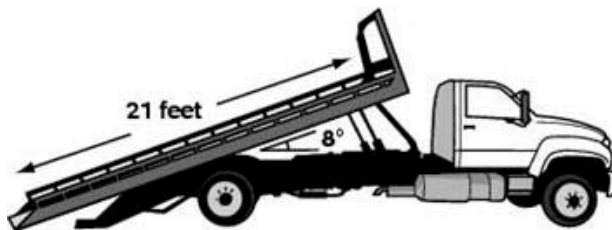


b.



d.

32) A flatbed tow truck's ramp is 21 feet long and forms an angle of 8° with the ground when it is in loading position. How high off the ground will the towed vehicle be when it is pulled to the top of the ramp?

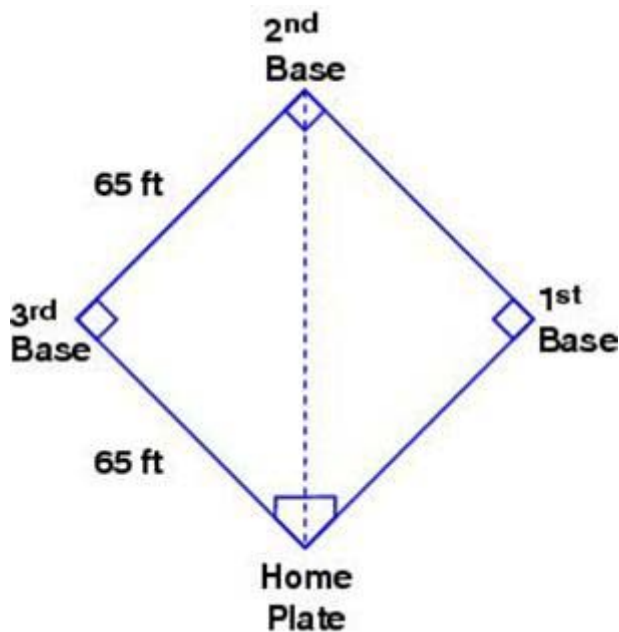


- a. 151 feet
- b. 2.9 feet
- c. 3.0 feet
- d. 3.7 feet

33) A parking garage ramp has an angle of elevation of 18 degrees. If a car drives 30 meters up the ramp, approximately how many meters has the car risen from its starting elevation?

- a. 9 meters
- b. 18 meters
- c. 24 meters
- d. 29 meters

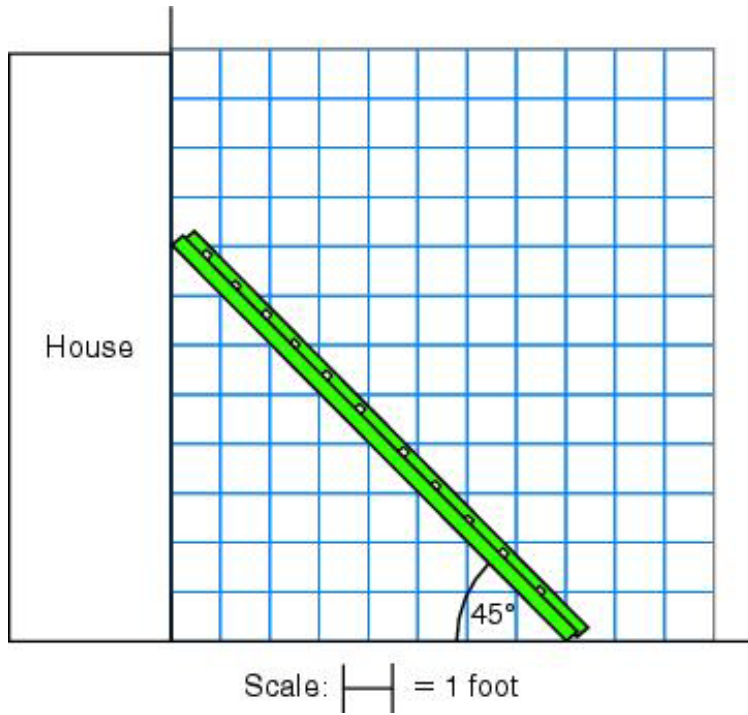
34) A group of friends organize a softball game. They set the bases 65 feet apart. The line segments between successive bases are perpendicular.



If a player throws the ball from second base to home plate, what is the approximate distance, to the nearest foot, the ball travels?

- a. 65 ft
- b. 92 ft
- c. 113 ft
- d. 130 ft

35) This diagram shows a ladder propped against the wall of a house.

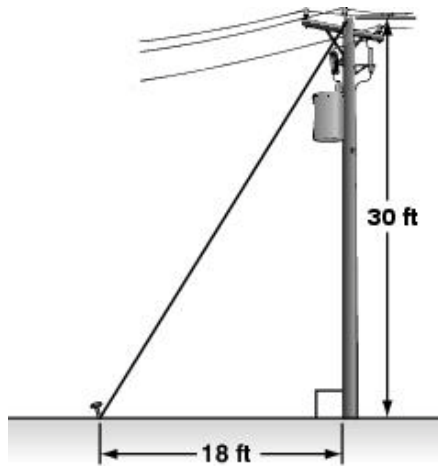


What is the approximate length of the ladder?

$$a^2 + b^2 = c^2$$

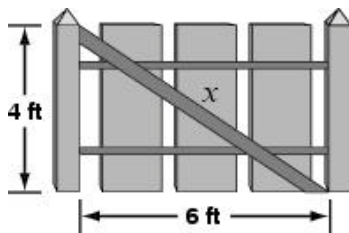
- a. 5.7 feet
- b. 8 feet
- c. 11.3 feet
- d. 16 feet

- 36) This diagram shows a wire attached to the top of a 30-foot telephone pole and to the ground 18 feet from the base of the pole.



What is the approximate length of the wire?

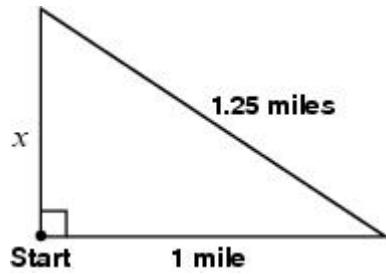
- a. 12 feet
 - b. 24 feet
 - c. 35 feet
 - d. 48 feet
- 37) A gate in a fence is 4 feet tall and 6 feet wide, as shown.



A wooden support is to be nailed across the diagonal of this gate. What is the approximate length, x , of the wooden support?

- a. 5.0 ft
- b. 6.3 ft
- c. 7.2 ft
- d. 10.0 ft

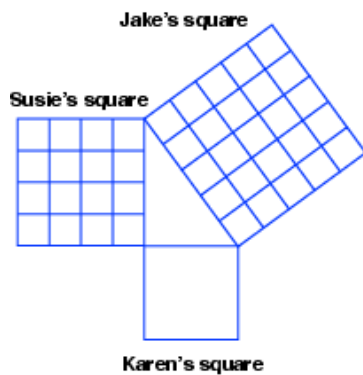
38) This diagram shows the triangular route that Diane walks each morning.



How far does Diane walk each morning?

- a. 2.6 miles
- b. 3.0 miles
- c. 3.25 miles
- d. 3.5 miles

39) Jake places 25 blocks on top of a table and arranges them into a square. Susie arranges 16 blocks into another square, as shown below.



How many blocks would Karen need to fill her square?

- a. 3
- b. 6
- c. 9
- d. 12

40)

In triangle ABC, angle C is a right angle. If $\cos(A) = \frac{1}{2}$, find $\sin(B)$.

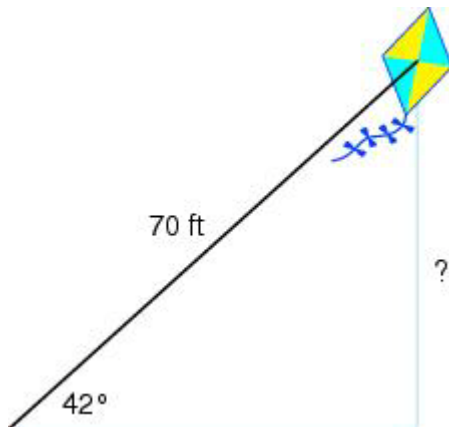
a. $\frac{1}{2}$

b. $\frac{\sqrt{3}}{2}$

c. 2

d. $\frac{\sqrt{3}}{3}$

41) Tom is flying his kite. The kite's angle of elevation is 42° .



To the nearest foot, how high off the ground is the kite when it is 70 ft away from Tom?

a. 47 ft

b. 52 ft

c. 63 ft

d. 105 ft

42) What is the sine of an acute angle of a right triangle if the tangent of the angle is $\frac{3}{5}$?

a. $\frac{3}{4}$

b. $\frac{4}{5}$

c. $\frac{3\sqrt{34}}{34}$

d. $\frac{5\sqrt{34}}{34}$

43) Given $\triangle ABC$ with right angle C , if $\cos A = \frac{15}{17}$, what is $\tan A$?

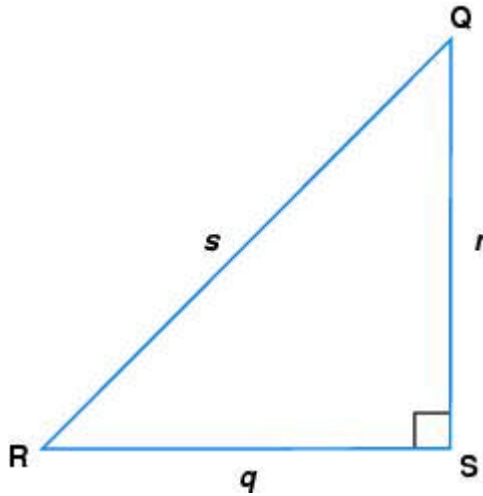
a. $\frac{8}{17}$

b. $\frac{8}{15}$

c. $\frac{17}{15}$

d. $\frac{15}{8}$

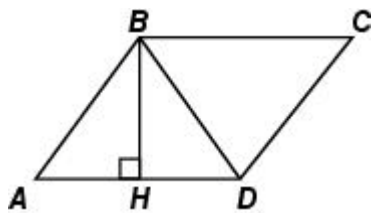
44) A surveyor drew $\triangle QRS$ to represent a scale drawing of a piece of land.



Which ratio can be used to find the tangent of $\angle R$?

- a. $\frac{r}{q}$
- b. $\frac{r}{s}$
- c. $\frac{q}{r}$
- d. $\frac{q}{s}$

45) $\triangle ABD$ is part of parallelogram ABCD. $\overline{AD} = 10$ and $\overline{BH} = 6$. If the area of parallelogram ABCD is 60 units, find the area of $\triangle ABD$.



- a. 15 units
- b. 19 units
- c. 28 units
- d. 30 units

46) A circle has a radius of x . If the radius is tripled, how much MORE area would the new circle encompass than the original circle?

a. $2\pi x^2$

b. $3\pi x^2$

c. $8\pi x^2$

d. $9\pi x^2$

47) Dan made the poster shown below to support his school's football team.



If Dan wants to double the area of his sign, which of the following could he do?

a. triple the width

b. double the width

c. triple the width and the length

d. double the width and the length

48) Beth's square flower garden is twice as long as her square vegetable garden. What is the ratio of the area of the vegetable garden to the area of the flower garden?

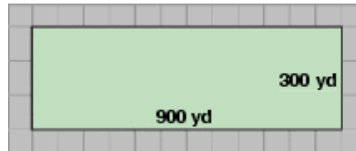
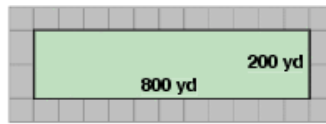
a. 1:4

b. 1:2

c. 2:1

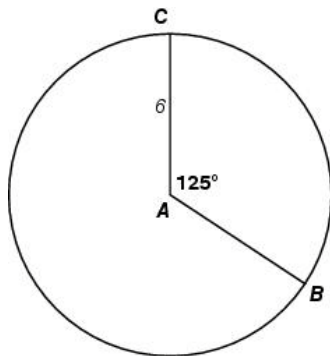
d. 4:1

- 49) Hibbard Construction charges \$200,000 to build a sidewalk around a rectangular field that is 200 yards by 800 yards.



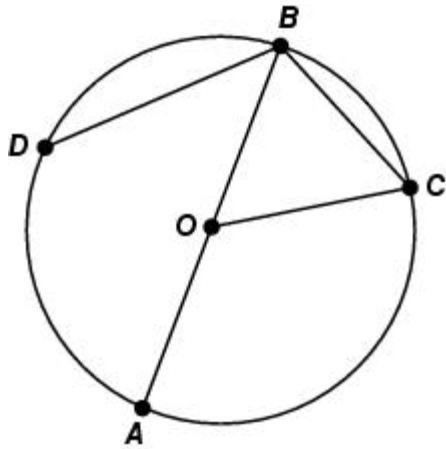
At the same cost per yard, how much will Hibbard charge to build a sidewalk around a rectangular field that is 300 yards by 900 yards?

- a. \$240,000
 - b. \$300,000
 - c. \$337,500
 - d. \$400,000
- 50) What is the length of arc BC in circle A ?



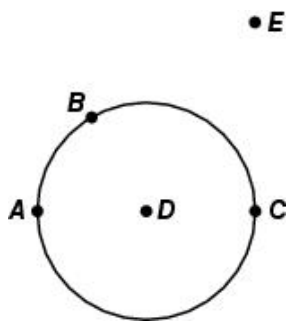
- a. 12π
- b. $\frac{25\pi}{2}$
- c. $\frac{25\pi}{6}$
- d. $\frac{25\pi}{12}$

51) Which segment represents a radius of the circle?



- a. \overline{AB}
- b. \overline{BC}
- c. \overline{BD}
- d. \overline{OC}

52) Zoe drew this circle in her math notebook. She plans to draw and label segments and lines related to the circle.



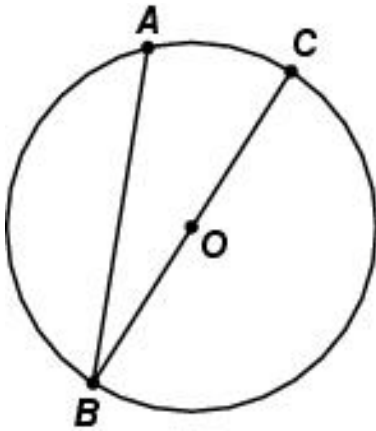
How can Zoe draw a secant to circle D ?

- a. Draw line \overline{BC} .
- b. Draw line \overline{BE} .
- c. Draw segment \overline{CE} .
- d. Draw segment \overline{AD} .

53) The radius of a circle is $(2x + 3)$ cm. What is the diameter?

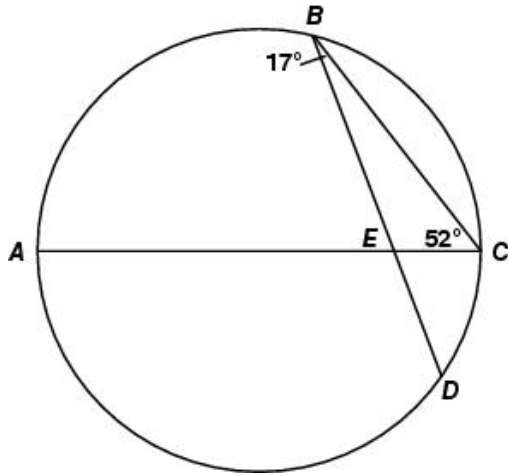
- a. $(4x + 3)$ cm
- b. $(4x + 5)$ cm
- c. $(4x + 6)$ cm
- d. $(4x + 9)$ cm

54) If the measure of \widehat{AC} is 40° , what is the measure of $\angle ABC$?



- a. 20°
- b. 40°
- c. 45°
- d. 50°

55) In the diagram, diameter AC intersects chord BD at point E . $\angle EBC$ measures 17° and $\angle ECB$ measures 52° . Find the measure of \widehat{BC} .



- a. 34°
- b. 69°
- c. 76°
- d. 104°

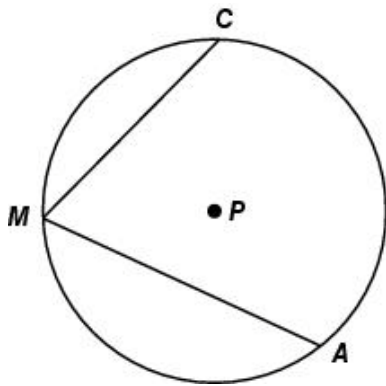
56) Chords LM and NP intersect at point K in circle O . If arc LP measures 54° , and arc MN measures 96° , what is the measure of $\angle MKN$?

- a. 75°
- b. 96°
- c. 105°
- d. 150°

57) Inscribed angle ABC in circle O measures 124° . What is the measure of arc ABC?

- a. 112°
- b. 124°
- c. 236°
- d. 248°

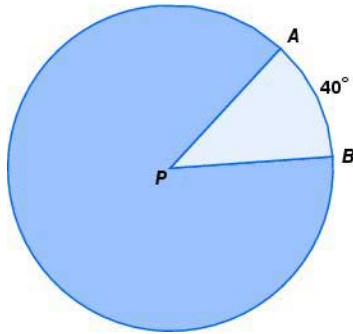
58) $\angle CMA$ is inscribed in circle P .



What is the measure of $\angle CMA$ if $m\widehat{CMA} = 200^\circ$?

- a. 80°
- b. 100°
- c. 160°
- d. 200°

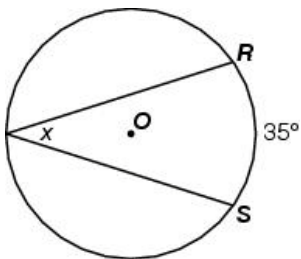
59) As shown in the diagram below, $m\widehat{AB} = 40^\circ$.



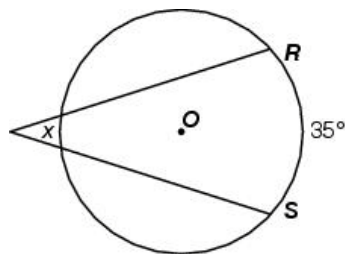
What is the measure of $\angle APB$?

- a. 20°
- b. 40°
- c. 80°
- d. 320°

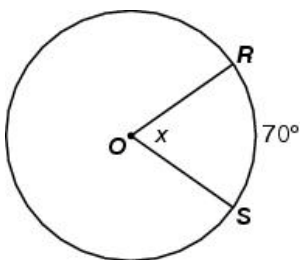
60) Each circle below has center point O and the measure of minor arc RS as labeled. In which figure is the measure of angle x equal to 35° ?



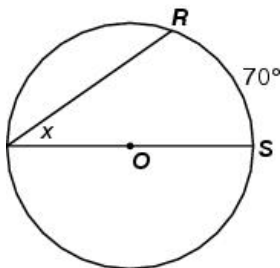
a.



c.

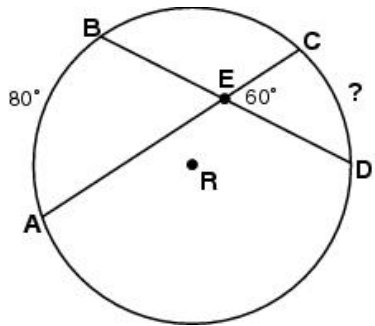


b.



d.

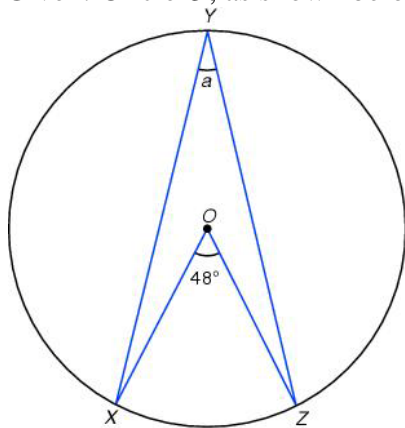
61) In circle R, $m\angle CED = 60^\circ$ and $m\widehat{AB} = 80^\circ$.



What is the measure of \widehat{CD} ?

- a. 40°
- b. 60°
- c. 70°
- d. 80°

62) Given: Circle O, as shown below.



If a is the measure of $\angle XYZ$, what is the value of a ?

- a. 21°
- b. 24°
- c. 42°
- d. 48°

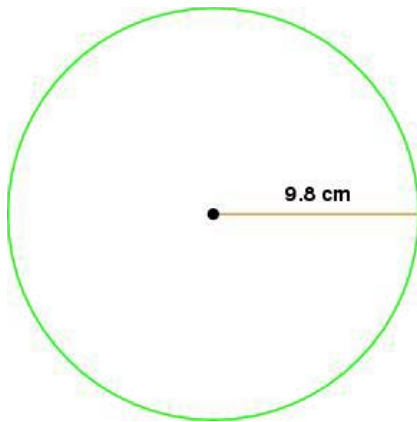
63) Paul cuts a pizza that is 9 inches in diameter into 6 equal slices. To help find the area of one pizza slice, Paul uses the formula for the area of a circle. Which of the following is the most reasonable estimate of the area of one pizza slice?

- a. about 5 square inches
- b. about 11 square inches
- c. about 42 square inches
- d. about 64 square inches

64) Sally has a circular rug on the floor of her bedroom. If the area of the rug is 16π square feet, what is the diameter of the rug?

- a. 2 feet
- b. 4 feet
- c. 8 feet
- d. 16 feet

65) Anna traced around the rim of a plate and measured the radius of the drawing. Which is the BEST estimate of the area of the circle Anna drew? Use 3.14 for π . (radius is 9.8 cm.)

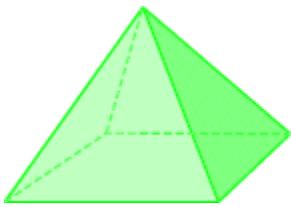


- a. 314 square centimeters
- b. 628 square centimeters
- c. 986 square centimeters
- d. 1,256 square centimeters

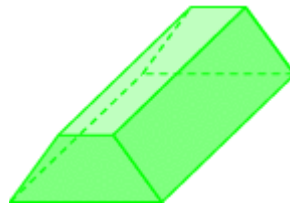
66) Linda and her friends ate an entire 8-inch-diameter pizza. Approximately how much pizza, in square inches, did they eat?

- a. 25 in.^2
- b. 50 in.^2
- c. 100 in.^2
- d. 200 in.^2

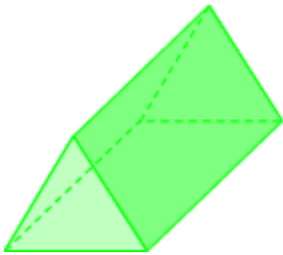
67) Mrs. Harris asked her class to construct a three-dimensional figure that had one base and three or more lateral faces that were shaped like triangles. The students were allowed to use a straightedge, a compass, a pair of scissors, and some tape. Which of these completed constructions correctly represents the three-dimensional figure that Mrs. Harris described?



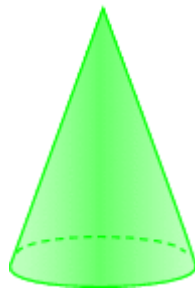
a.



c.

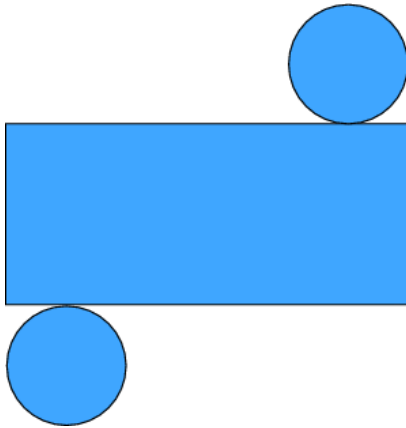


b.



d.

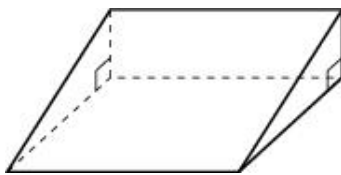
- 68) Linda cut the following net out of construction paper and folded it to create a three-dimensional solid.



Which solid can be made from the net that Linda created?

- a. sphere
 - b. cone
 - c. cylinder
 - d. rectangular prism
- 69) Which are true relationships between the triangular bases of this triangular prism?

- I. They are congruent triangles.
- II. They are equilateral triangles.
- III. The planes containing them are parallel.

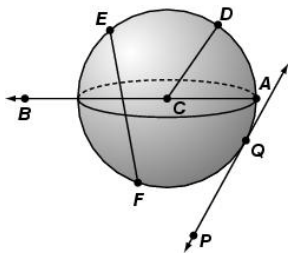


- a. I only
- b. I, II, and III
- c. I and II only
- d. I and III only

70) Which shape has a square base and four triangles for its faces?

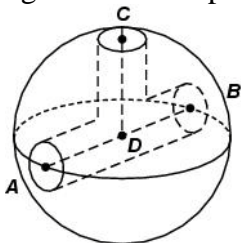
- a. cone
- b. triangular prism
- c. square pyramid
- d. rectangular solid

71) Which of these describes a chord in the sphere shown below?



- a. \overrightarrow{AB}
- b. \overline{CD}
- c. \overline{EF}
- d. \overrightarrow{PQ}

72) An inventor of a new building toy included the figure below in his patent application. The figure shows a spherical connecting piece with holes drilled into it.



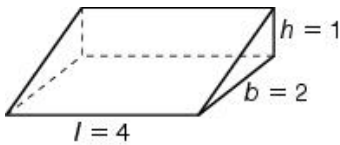
Which part of the sphere does the hole CD represent?

- a. a chord
- b. a radius
- c. a tangent
- d. a diameter

73) Kayla lives in Orlando, Florida. Her family plans to drive to San Diego, California, over the summer. While looking at a globe, Kayla wonders what distance the trip would be if there were a tunnel through Earth that followed a straight line from Orlando to San Diego. Which of these BEST names such a tunnel in relation to the sphere of the globe?

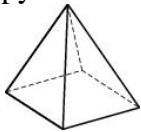
- a. chord
- b. tangent
- c. diameter
- d. great circle

74) The volume of this right triangular prism is 4. Find the volume of a pyramid with the same base and height.



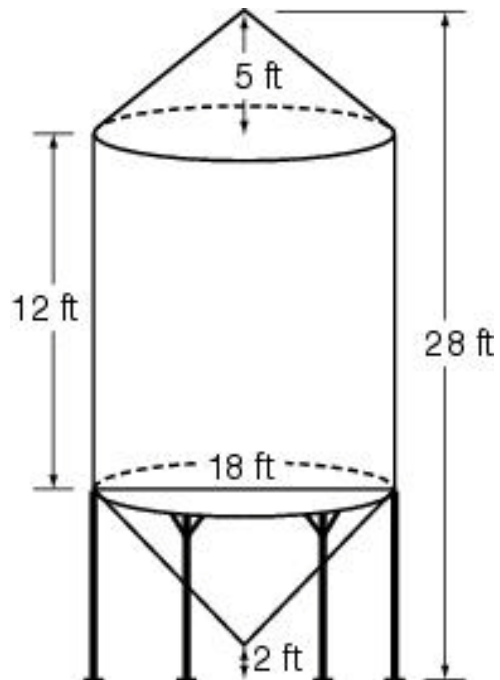
- a. $\frac{4}{3}$
- b. $\frac{8}{3}$
- c. 2
- d. 4

75) A square pyramid is constructed with isosceles triangles for sides. If the bottom edge is 10 feet, and the edge length to the top is 12 feet, what is the surface area of the entire pyramid?



- a. 54.54 feet²
- b. 218.17 feet²
- c. 318.17 feet²
- d. 480 feet²

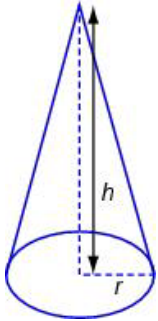
76) A combination hopper cone and bin, such as the one shown below, can be used by farmers to store grain after harvest.



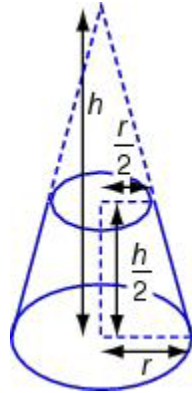
Using the dimensions shown in the diagram above, what is the approximate value of the volume of the bin with the conical top and bottom?

- a. 1,959 ft³
- b. 2,091 ft³
- c. 4,409 ft³
- d. 4,239 ft³

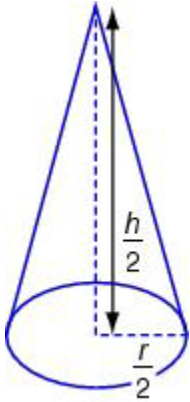
77) The formula $V = \frac{7}{24} r^2 h$ represents the volume of which solid figure?



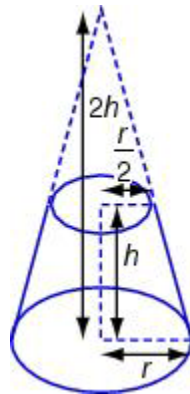
a.



c.

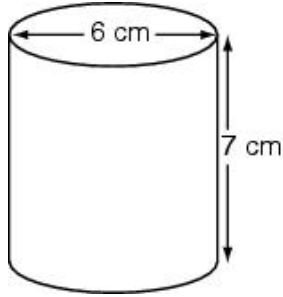


b.



d.

78) The dimensions of a cylinder are given below.



What is the surface area of the cylinder in square centimeters?

- a. 42π
- b. 51π
- c. 60π
- d. 84π

79) A company sells its product in a rectangular box with dimensions of 3 inches by 6 inches by 12 inches. The company also uses a box with similar dimensions and a volume of 343 cubic inches. What are the dimensions of the second box, in inches? Round to the nearest tenth.

- a. $3.2 \times 7.8 \times 13.7$
- b. $3.5 \times 7.0 \times 14.0$
- c. $4.0 \times 8.0 \times 16.0$
- d. $4.8 \times 9.5 \times 19.1$

80) Two rectangular prisms are congruent. The first rectangular prism is 12 inches long, 18 inches wide, and 24 inches tall. The second rectangular prism is 12 inches tall. Which of these could be the length and width of the second prism?

- a. 6 inches long and 9 inches wide
- b. 12 inches long and 18 inches wide
- c. 12 inches wide and 36 inches long
- d. 18 inches long and 24 inches wide

81) There are two cubes. The ratio of the lengths of their edges is 2:3. The volume of the smaller cube is 32 cubic feet. What is the volume of the larger cube?

- a. 9 cubic feet
- b. 48 cubic feet
- c. 72 cubic feet
- d. 108 cubic feet

82) John has two similar boxes. The ratio of their volumes is 1:1,000. What is the ratio of the lengths of their edges?

- a. 1:10
- b. 1:100
- c. $1:\sqrt{10}$
- d. $1:\sqrt[3]{100}$

83) Meesha is painting two rectangular boxes. One box is 6 ft \times 3 ft \times 2 ft. The dimensions of the other box are $\frac{1}{3}$ the size of the first box. How many times greater is the surface area of the larger box than the smaller box?

- a. 3
- b. 6
- c. 9
- d. 27

84) Manuel drew a circle with the center at $(4, -2)$ and a diameter of 10. Which equation represents Manuel's circle?

- a. $(x - 4)^2 + (y + 2)^2 = 25$
- b. $(x + 4)^2 + (y - 2)^2 = 25$
- c. $(x - 4)^2 + (y + 2)^2 = 100$
- d. $(x + 4)^2 + (y - 2)^2 = 100$

85) What is an equation of a circle with center $(0, -3)$ and radius $2\sqrt{3}$?

a. $x^2 + (y + 3)^2 = 6$

b. $x^2 + (y - 3)^2 = 6$

c. $x^2 + (y + 3)^2 = 12$

d. $x^2 + (y - 3)^2 = 12$

86) What are the diameter and coordinates of the center of a circle whose equation is $(x + 5)^2 + (y - 2)^2 = 49$?

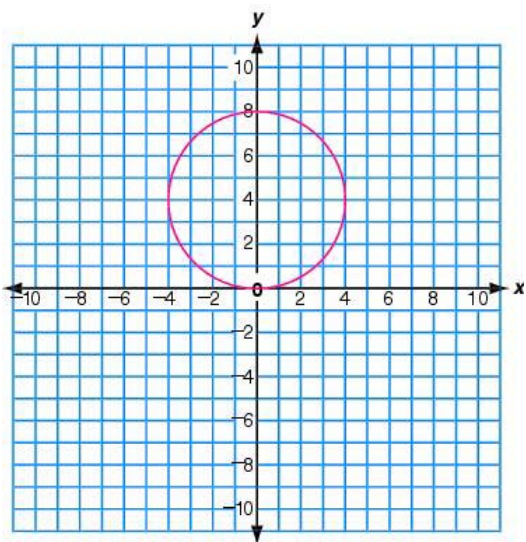
a. $d = 7; (-5, 2)$

b. $d = 7; (5, -2)$

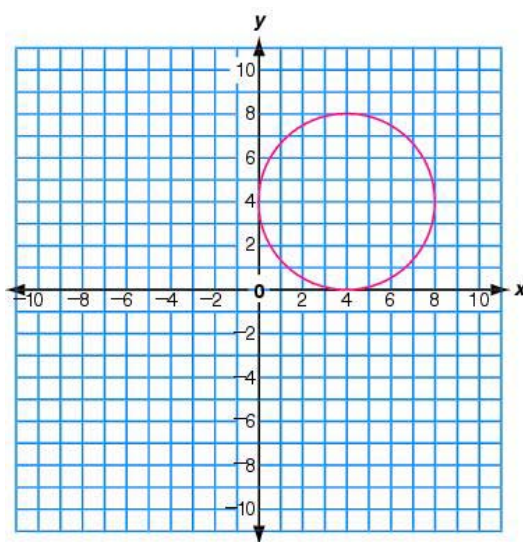
c. $d = 14; (-5, 2)$

d. $d = 14; (5, -2)$

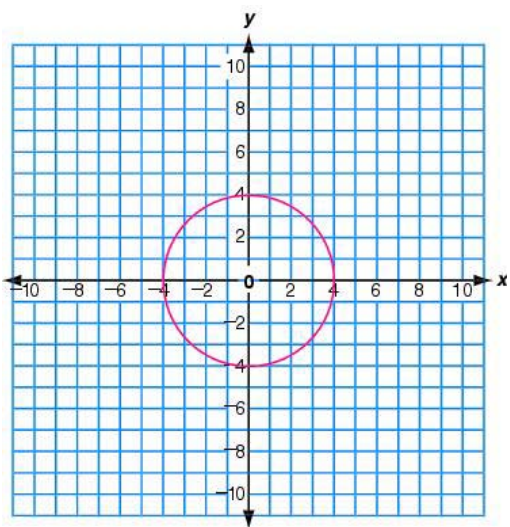
87) A drawing has been done on a grid to show the size and shape of a new fountain in a park. If the equation $x^2 + y^2 = 16$ describes the size and shape of the fountain, which graph represents the drawing of the fountain?



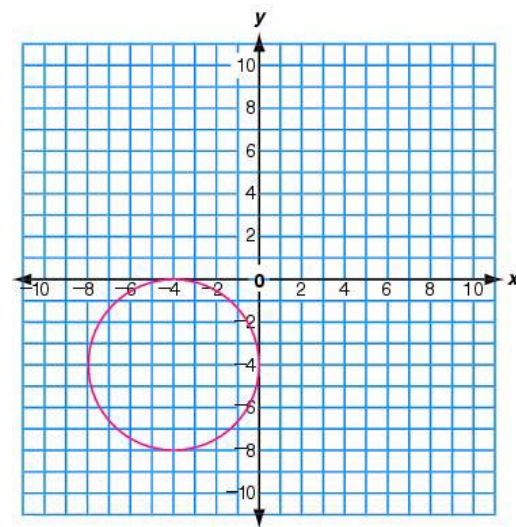
a.



c.

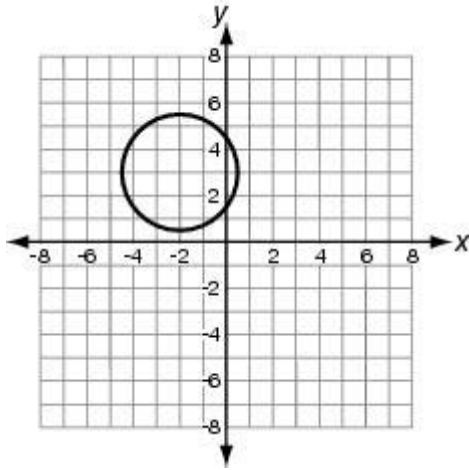


b.

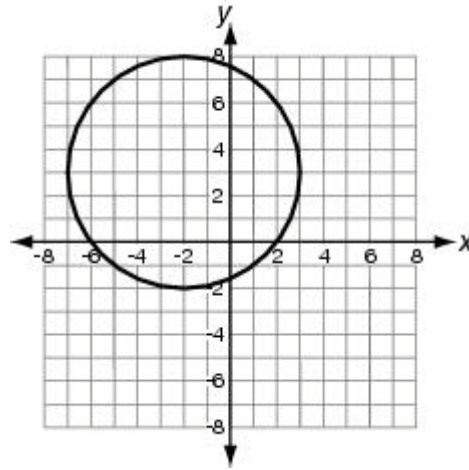


d.

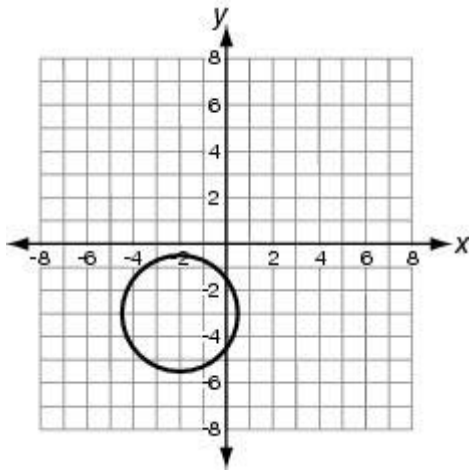
88) Cara graphed a circle with center $(-2, -3)$ and a radius of 5. Which graph shows the circle Cara drew?



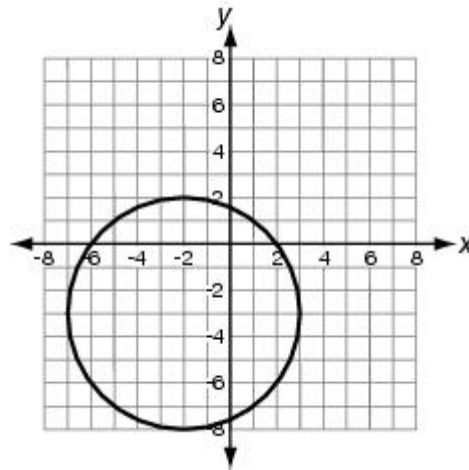
a.



c.

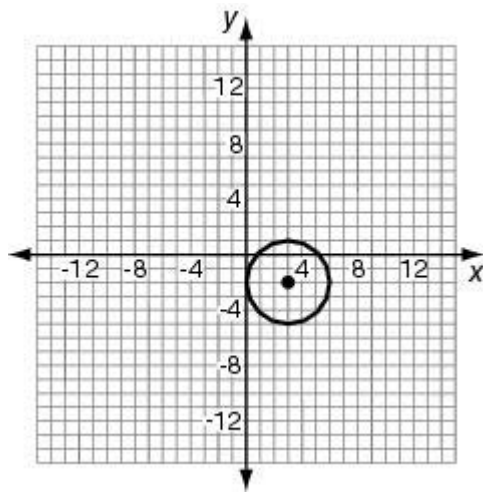


b.

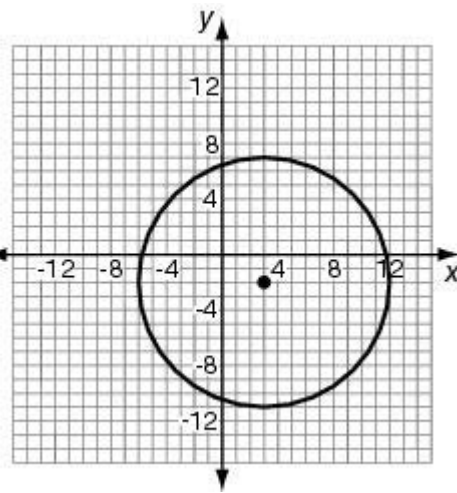


d.

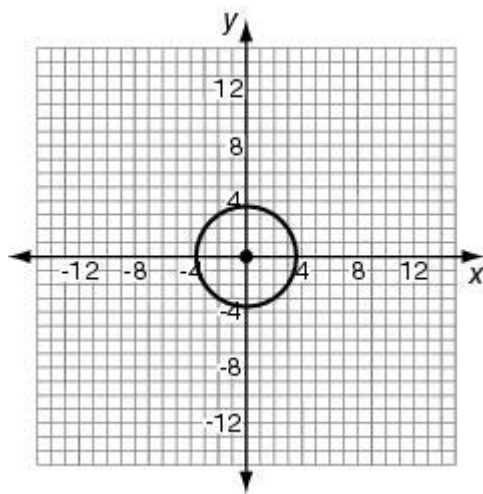
89) Ms. Franklin demonstrated to her math class how to graph the circle represented by the equation $(x - 3)^2 + (y + 2)^2 = 9$. Which graph did she draw?



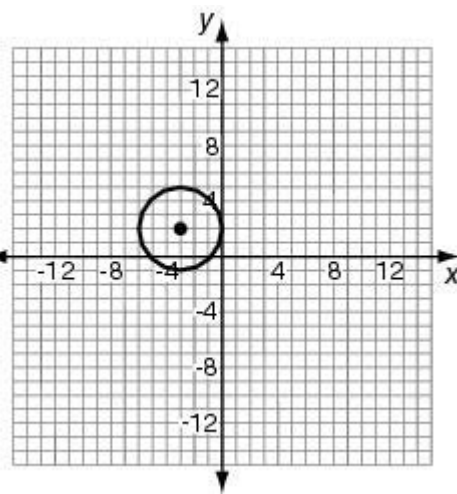
a.



c.

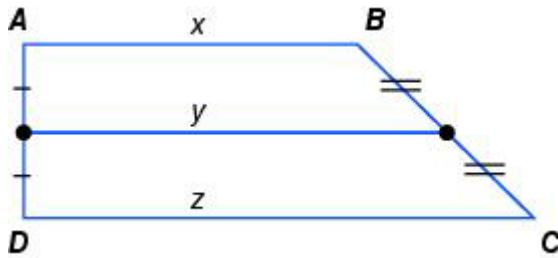


b.



d.

90) $ABCD$ is a trapezoid.



Which equation can be used to determine the length of the midsegment of this trapezoid?

- a. $y = \frac{xz}{2}$
- b. $y = \frac{x+z}{2}$
- c. $y = \frac{z-x}{2}$
- d. $y = \frac{x-z}{2}$

91) What is the formula for finding the area (A) of a kite where d_1 and d_2 represent the length of the diagonals of a kite.

- a. $A = d_1 \cdot d_2$
- b. $A = \frac{1}{2}d_1 \cdot d_2$
- c. $A = (d_1 \cdot d_2)^2$
- d. $A = 4(d_1 + d_2)$