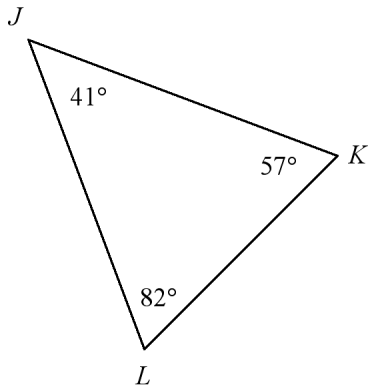
Name: _____ **Block:** _____ **Date:** _____ **ID: A**

Geometry CP Review for Final 2016

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. List the sides in order from shortest to longest. The diagram is not to scale.



A $\overline{LK}, \overline{JK}, \overline{LJ}$ B $\overline{JK}, \overline{LK}, \overline{LJ}$ C $\overline{LK}, \overline{LJ}, \overline{JK}$ D $\overline{JK}, \overline{LJ}, \overline{LK}$

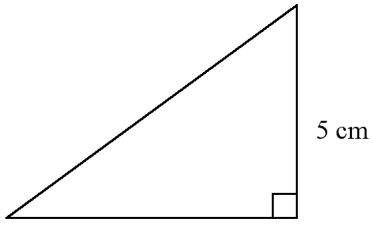
____ 2. Which three lengths could be the lengths of the sides of a triangle?

A 10 cm, 13 cm, 22 cm
B 12 cm, 5 cm, 17 cm
C 22 cm, 7 cm, 6 cm
D 6 cm, 24 cm, 12 cm

____ 3. In a diagram of a landscape plan, the scale is 1 cm = 10 ft. In the diagram, the trees are 3.1 centimeters apart. How far apart should the actual trees be planted?

A 3.1 feet
B 31 feet
C 310 feet
D 31 centimeters

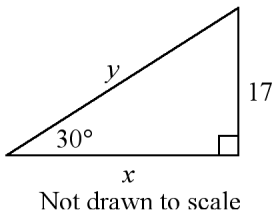
____ 4. Find the length of the missing side. Leave your answer in simplest radical form.



Not drawn to scale

A $\sqrt{41}$ cm B 41 cm C $\sqrt{29}$ cm D $\sqrt{11}$ cm

____ 5. Find the value of the variable(s). If your answer is not an integer, leave it in simplest radical form.



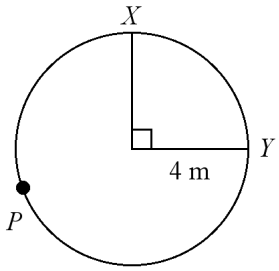
Not drawn to scale

A $x = 17\sqrt{3}$, $y = 34$
B $x = 17$, $y = 34\sqrt{3}$
C $x = 34\sqrt{3}$, $y = 17$
D $x = 34$, $y = 17\sqrt{3}$

____ 6. A kite has diagonals 9.4 ft and 5 ft. What is the area of the kite?

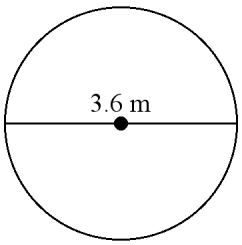
A 7.2 ft^2 B 28.8 ft^2 C 47 ft^2 D 23.5 ft^2

____ 7. Find the length of **arc *XY***. Leave your answer in terms of π.



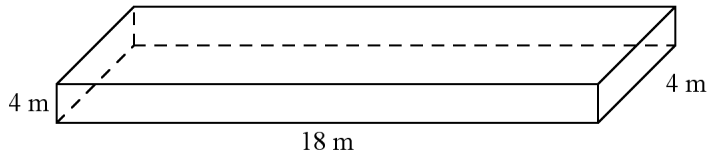
A 2π m B 12π m C 360π m D 6π m

____ 8. Find the area of the circle with a diameter of 3.6 meters. Leave your answer in terms of π.



A 12.96π m^2 B 3.24π m^2 C 10.2π m^2 D 6.48π m^2

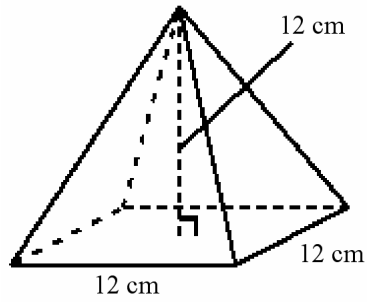
____ 9. Use formulas to find the volume of the given prism.



Not drawn to scale

A $190m^3$
B $95m^3$
C $288m^3$
D $20m^3$

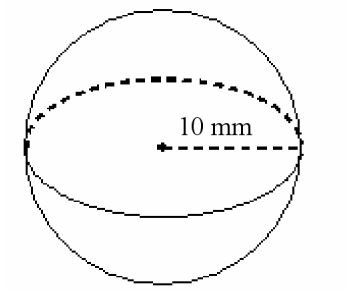
____ 10. Find the volume of the square pyramid shown. Round to the nearest tenth as necessary.



Not drawn to scale

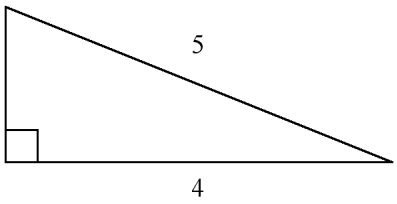
A $864\ cm^3$
B $576\ cm^3$
C $48\ cm^3$
D $148\ cm^3$

____ 11. Find the volume of the sphere shown. Round your answer to the nearest cubic unit.



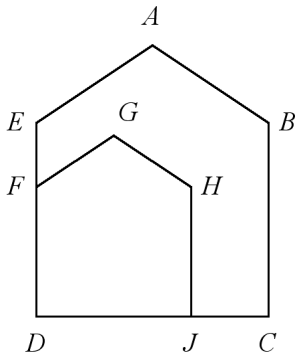
A $4189\ mm^3$
B $1257\ mm^3$
C $2094\ mm^3$
D $419\ mm^3$

____ 12. Find the length of the missing side. The triangle is not drawn to scale.



Ⓐ 3 Ⓑ 6 Ⓒ 2 Ⓓ 9

____ 13. $ABCDE \sim GHJDF$. Complete the statements.

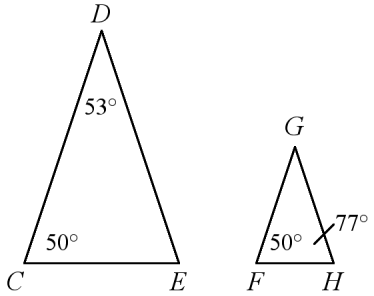


a. $\angle G \cong$ ■

b. $\frac{FG}{DJ} = \frac{AE}{■}$

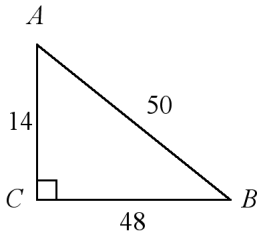
Ⓐ $\angle A$; DC Ⓑ E; AE Ⓒ E; DC Ⓓ $\angle A$; AE

____ 14. Are the two triangles similar? How do you know?



Ⓐ yes, by SAS~
Ⓑ yes, by SSS~
Ⓒ yes, by AA~
Ⓓ no

____ 15. Write the ratio for sin A.



Not drawn to scale

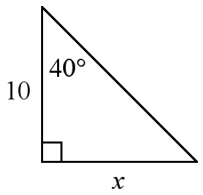
A $\sin A = \frac{48}{50}$

B $\sin A = \frac{14}{50}$

C $\sin A = \frac{48}{14}$

D $\sin A = \frac{50}{48}$

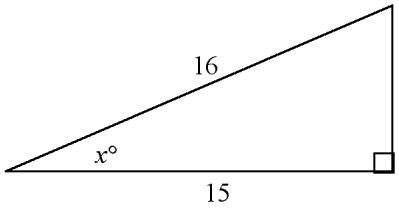
____ 16. Use a trigonometric ratio to find the value of x. Round your answer to the nearest tenth.



Not drawn to scale

A 8.4 B 6.4 C 11.9 D 7.7

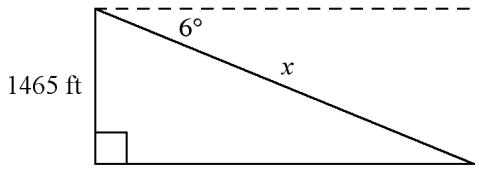
____ 17. Find the value of x. Round to the nearest degree.



Not drawn to scale

A 25 B 70 C 20 D 43

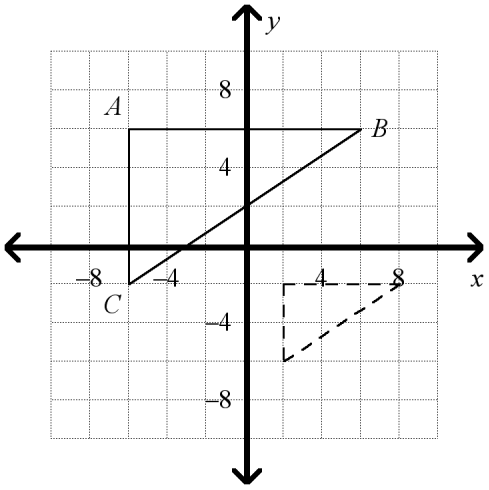
____ 18. To approach the runway, a pilot of a small plane must begin a 6° descent starting from a height of 1465 feet above the ground. To the nearest tenth of a mile, how many miles from the runway is the airplane at the start of this approach?



Not drawn to scale

Ⓐ 2.7 mi Ⓑ 14,015.3 mi Ⓒ 2.6 mi Ⓓ 0.3 mi

____ 19. The dashed-lined figure is a dilation image of ΔABC with center of dilation P (not shown). Is $D_{(n,P)}$ an enlargement, or a reduction? What is the scale factor n of the dilation?



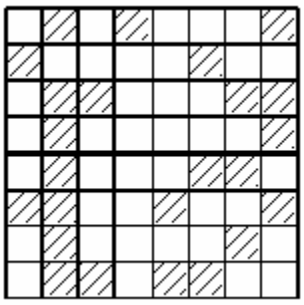
Ⓐ enlargement; $n = 2$

Ⓑ reduction; $n = \frac{1}{4}$

Ⓒ reduction; $n = 2$

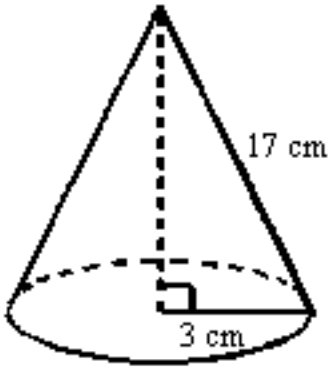
Ⓓ reduction; $n = \frac{1}{2}$

____ 20. What is the probability that a point chosen at random on the grid will lie in the shaded region?



A $\frac{5}{8}$ B $\frac{2}{5}$ C $\frac{3}{8}$ D $\frac{3}{5}$

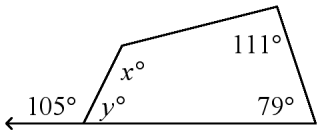
____ 21. Find the surface area of the cone in terms of π.



Not drawn to scale

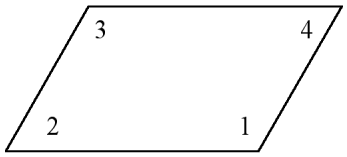
A 90π cm^2 B 96 cm^2 C 192π cm^2 D 114π cm^2

____ 22. Find the missing values of the variables. The diagram is not to scale.



A $x = 75, y = 95$
B $x = 75, y = 105$
C $x = 95, y = 75$
D $x = 105, y = 111$

____ 23. For the parallelogram, if $m\angle 2 = 3x - 20$ and $m\angle 4 = 2x - 7$, find $m\angle 1$. The diagram is not to scale.

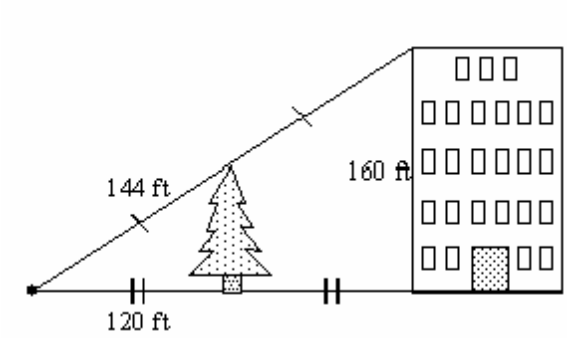


A 13 B 19 C 171 D 161

____ 24. What is the solution of the proportion? $\frac{2x + 8}{9} = \frac{x}{4}$

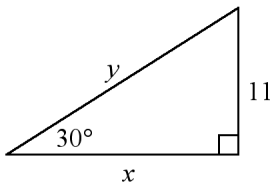
A 32 B 8 C $\frac{32}{17}$ D $\frac{17}{32}$

____ 25. Use the information in the diagram to determine the height of the tree to the nearest foot.



A 80 ft B 264 ft C 60 ft D 72 ft

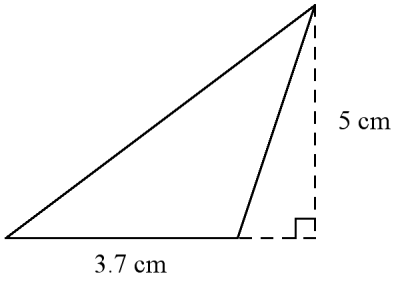
____ 26. Find the value of the variable(s). If your answer is not an integer, leave it in simplest radical form.



Not drawn to scale

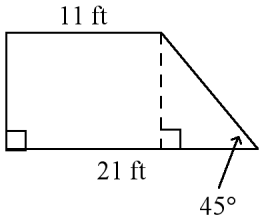
A $x = 22\sqrt{3}, y = 11$
B $x = 11\sqrt{3}, y = 22$
C $x = 22, y = 11\sqrt{3}$
D $x = 11, y = 22\sqrt{3}$

____ 27. Find the area. The figure is not drawn to scale.



Ⓐ 18.5 cm^2 Ⓑ 8.7 cm^2 Ⓒ 9.25 cm^2 Ⓓ 37 cm^2

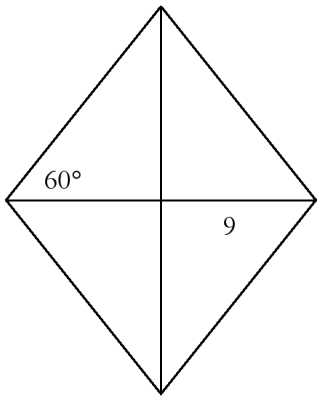
____ 28. Find the area of the trapezoid. Leave your answer in simplest radical form.



Not drawn to scale

Ⓐ $160\sqrt{2}$ ft^2 Ⓑ 160 ft^2 Ⓒ 320 ft^2 Ⓓ 16 ft^2

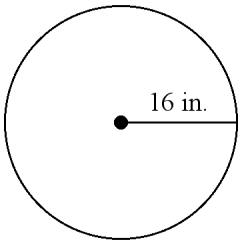
____ 29. Find the area of the rhombus. Leave your answer in simplest radical form.



Not drawn to scale

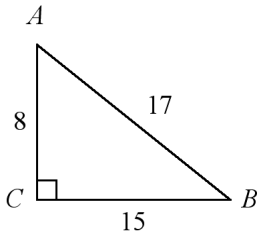
Ⓐ $18\sqrt{3}$ $units^2$ Ⓑ $81\sqrt{6}$ $units^2$ Ⓒ $162\sqrt{3}$ $units^2$ Ⓓ 162 $units^2$

____ 30. Find the circumference. Leave your answer in terms of π.



Ⓐ 48π in. Ⓑ 256π in. Ⓒ 16π in. Ⓓ 32π in.

____ 31. Write the ratios for cos A.

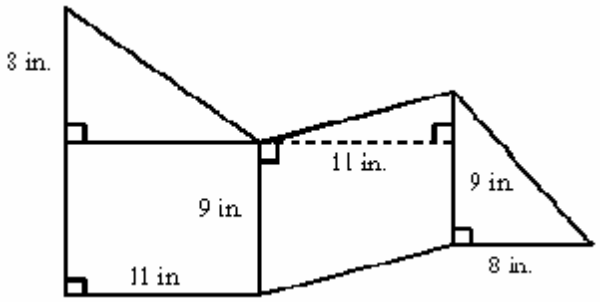


Not drawn to scale

Ⓐ $\cos A = \frac{15}{17}$ Ⓒ $\cos A = \frac{8}{17}$

Ⓑ $\cos A = \frac{8}{15}$ Ⓓ $\cos A = \frac{8}{17}$

____ 32. Find the area. The figure is not drawn to scale.

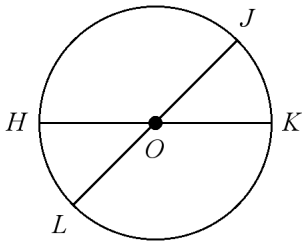


Ⓐ 188 in.^{2} Ⓑ 278 in.^{2} Ⓒ 322 in.^{2} Ⓓ none of these

____ 33. A parallelogram has sides measuring 23.8 m and 35.3 m. The height corresponding to the 23.8-m base is 9.9 m. Find the height, to the nearest tenth of a meter, corresponding to the 35.3-m base.

Ⓐ 8317.4 m Ⓑ 14.7 m Ⓒ 6.7 m Ⓓ none of these

____ 34. What are the minor arcs of $\odot O$?



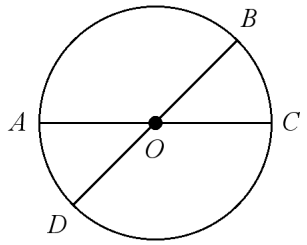
A $\overset{\frown}{JK}$ and $\overset{\frown}{LH}$

B $\overset{\frown}{HJ}$ and $\overset{\frown}{KL}$

C $\overset{\frown}{HJ}$, $\overset{\frown}{HK}$, $\overset{\frown}{JK}$, $\overset{\frown}{JL}$, $\overset{\frown}{KL}$, and $\overset{\frown}{LH}$

D $\overset{\frown}{HJ}$, $\overset{\frown}{JK}$, $\overset{\frown}{KL}$, and $\overset{\frown}{LH}$

____ 35. What are the major arcs of $\odot O$ that contain point B?



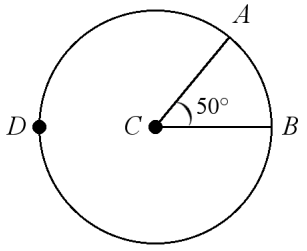
A $\overset{\frown}{BCA}$, $\overset{\frown}{CDB}$, $\overset{\frown}{DAC}$, and $\overset{\frown}{ABD}$

B $\overset{\frown}{BCA}$, $\overset{\frown}{CDB}$, and $\overset{\frown}{ABD}$

C $\overset{\frown}{AB}$, $\overset{\frown}{AC}$, $\overset{\frown}{BC}$, $\overset{\frown}{BD}$, $\overset{\frown}{CD}$, and $\overset{\frown}{DA}$

D $\overset{\frown}{BCA}$, $\overset{\frown}{BCD}$, $\overset{\frown}{CDB}$, $\overset{\frown}{CDA}$, $\overset{\frown}{DAC}$, and $\overset{\frown}{ABD}$

____ 36. Name the major arc and find its measure.



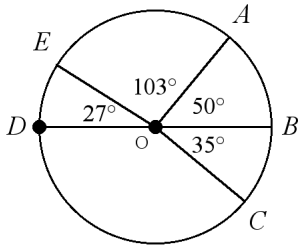
A $\overset{\frown}{BDA}$; 50

B $\overset{\frown}{AB}$; 50

C $\overset{\frown}{BDA}$; 310

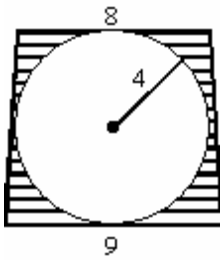
D $\overset{\frown}{AB}$; 310

____ 37. Find the measure of $\overset{\frown}{CDE}$.
The figure is not drawn to scale.



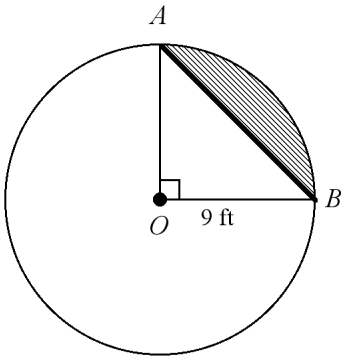
Ⓐ 188 Ⓑ 182 Ⓒ 162 Ⓓ 172

____ 38. Find the area of the shaded portion of the figure. Dimensions are in feet. Leave your answer in terms of π. The figure is not drawn to scale.



Ⓐ $(68 - 8\pi)$ ft^2 Ⓑ $(72 - 16\pi)$ ft^2 Ⓒ $(68 - 16\pi)$ ft^2 Ⓓ none of these

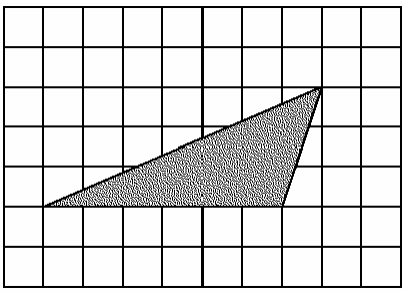
____ 39. The area of sector AOB is $20.25\pi\, ft^2$. Find the exact area of the shaded region.



Ⓐ $(20.25\pi - 40.5)ft^2$ Ⓒ $\left(20.25\pi - 40.5\sqrt{2}\right)ft^2$

Ⓑ $(20.25\pi - 81)ft^2$ Ⓓ none of these

____ 40. A fly lands at random at a point on the grid. Find the probability of the fly landing on the figure.



Ⓐ $\frac{9}{35}$ Ⓑ $\frac{9}{70}$ Ⓒ $\frac{18}{70}$ Ⓓ $\frac{9}{61}$

____ 41. How many sides does a regular polygon have if each exterior angle measures 20?
Ⓐ 17 sides Ⓑ 20 sides Ⓒ 21 sides Ⓓ 18 sides

____ 42. The sum of the measures of two exterior angles of a triangle is 255. What is the measure of the third exterior angle?
Ⓐ 75 Ⓑ 115 Ⓒ 105 Ⓓ 95

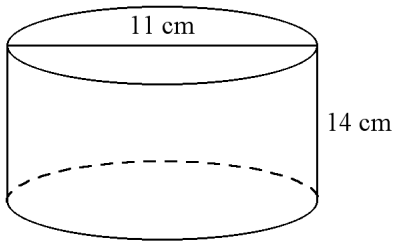
Short Answer

43. A triangle has side lengths of 11 cm, 48 cm, and 50 cm. Classify it as acute, obtuse, or right. Show your work or explain your answer.

Circle one: ACUTE OBTUSE RIGHT

Work/Explanation:

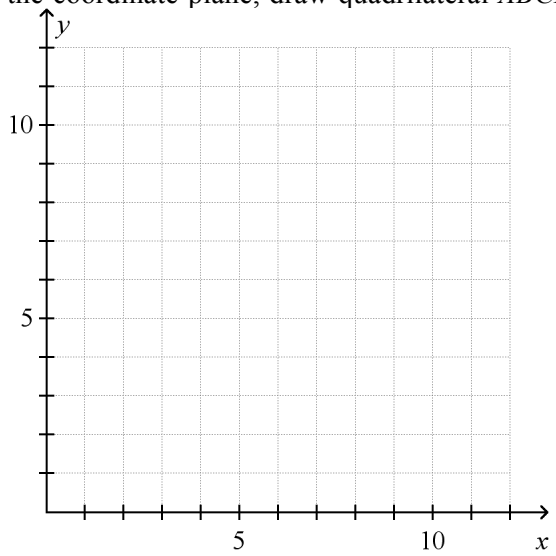
44. Use formulas to find the surface area and volume of the given cylinder. Leave your answers in terms of π.



Not drawn to scale

Surface Area _____ Volume _____

45. In the coordinate plane, draw quadrilateral $ABCD$ with $A(4, 3)$, $B(4, 9)$, $C(9, 9)$, and $D(9, 3)$.



b. Find the length of AC. Round your answer to the nearest tenth.

c. State the most precise name of the quadrilateral.

46. Find the measures of an interior angle and an exterior angle of a regular polygon with 6 sides.

Geometry CP Review for Final 2016
Answer Section

MULTIPLE CHOICE

1. ANS: C DIF: L2 TOP: 5-5 Example 3
2. ANS: A DIF: L2 TOP: 5-5 Example 4
3. ANS: B DIF: L3 TOP: 7-2 Problem 5 Use a Scale Drawing
4. ANS: A DIF: L2 TOP: 8-1 Example 2
5. ANS: A DIF: L2 TOP: 8-2 Example 4
6. ANS: D DIF: L2 TOP: 10-2 Example 3
7. ANS: D DIF: L2 TOP: 10-6 Example 5
8. ANS: B DIF: L2 TOP: 10-7 Example 1
9. ANS: C DIF: L2 TOP: 11-2 Example 2
10. ANS: B DIF: L2 TOP: 11-5 Example 1
11. ANS: A DIF: L2 TOP: 11-6 Example 3
12. ANS: A DIF: L2 TOP: 8-1 Example 1
13. ANS: A DIF: L3 TOP: 7-2 Problem 1 Understanding Similarity
14. ANS: C DIF: L3 TOP: 7-3 Problem 1 Using the AA Postulate
15. ANS: A DIF: L2 TOP: 8-3 Problem 1 Writing Trigonometric Ratios
16. ANS: A DIF: L2
    TOP: 8-3 Problem 2 Using a Trigonometric Ratio to Find Distance
17. ANS: C DIF: L3 TOP: 8-3 Problem 3 Using Inverses
18. ANS: A DIF: L3 TOP: 8-4 Problem 3 Using the Angle of Depression
19. ANS: D DIF: L3 TOP: 9-6 Problem 1 Finding a Scale Factor
20. ANS: C DIF: L2 TOP: 10-8 Problem 3 Using Area to Find Probability
21. ANS: D DIF: L3 TOP: 11-3 Problem 3 Finding the Surface Area of a Cone
22. ANS: C DIF: L3 TOP: 6-1 Problem 3 Using the Polygon Angle-Sum Theorem
23. ANS: D DIF: L4 TOP: 6-2 Problem 1 Using Consecutive Angles
24. ANS: A DIF: L4 TOP: 7-1 Problem 4 Solving a Proportion
25. ANS: A DIF: L3 TOP: 7-3 Problem 4 Finding Lengths in Similar Triangles
26. ANS: B DIF: L3 TOP: 8-2 Problem 4 Using the Length of One Side
27. ANS: C DIF: L3 TOP: 10-1 Problem 3 Finding the Area of a Triangle
28. ANS: B DIF: L3 TOP: 10-2 Problem 2 Finding Area Using a Right Triangle
29. ANS: C DIF: L3 TOP: 10-2 Problem 4 Finding the Area of a Rhombus
30. ANS: D DIF: L2 TOP: 10-6 Problem 3 Finding a Distance
31. ANS: C DIF: L2 TOP: 8-3 Problem 1 Writing Trigonometric Ratios
32. ANS: B DIF: L4 TOP: 10-1 Problem 4 Finding the Area of an Irregular Figure
33. ANS: C DIF: L3 TOP: 10-1 Problem 2 Finding a Missing Dimension
34. ANS: D DIF: L3 TOP: 10-6 Problem 1 Naming Arcs
35. ANS: A DIF: L3 TOP: 10-6 Problem 1 Naming Arcs
36. ANS: C DIF: L3 TOP: 10-6 Problem 2 Finding the Measures of Arcs
37. ANS: D DIF: L3 TOP: 10-6 Problem 2 Finding the Measures of Arcs
38. ANS: C DIF: L4 TOP: 10-7 Problem 1 Finding the Area of a Circle

39. ANS: A DIF: L2
TOP: 10-7 Problem 3 Finding the Area of a Segment of a Circle
40. ANS: B DIF: L3 TOP: 10-8 Problem 3 Using Area to Find Probability
41. ANS: D DIF: L2 TOP: 3-5 Example 3
42. ANS: C DIF: L2

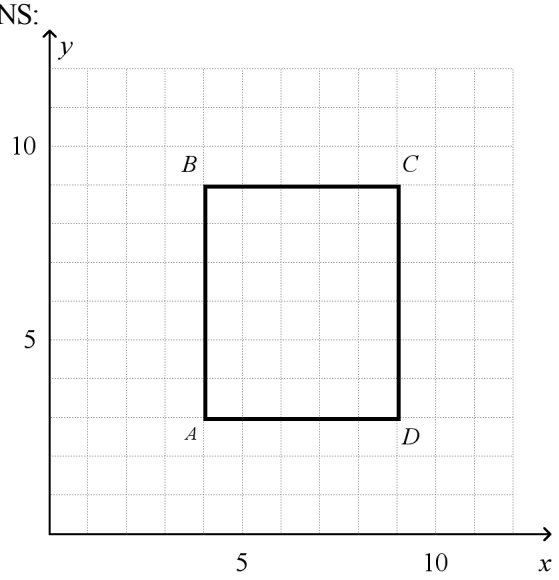
SHORT ANSWER

43. ANS:
right **(2 points answer, 2 points explanation/work)**

DIF: L2 TOP: 8-1 Example 5
44. ANS:

$214.5\pi \text{ cm}^2$

DIF: L2 TOP: 11-2 Example 3
45. ANS:



The length of AC is 7.8.

Rectangle

DIF: L4 TOP: 6-7 Problem 2 Classifying a Parallelogram
46. ANS:
$m\angle$(interior) = 120
$m\angle$(exterior) = 60

DIF: L2