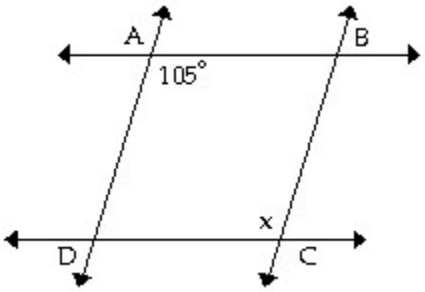
***Basic Technical Mathematics with Calculus, 10e* (Washington)**
Chapter 2 Geometry

2.1 Lines and Angles

1 Determine Measure of Angle from Information or Diagram

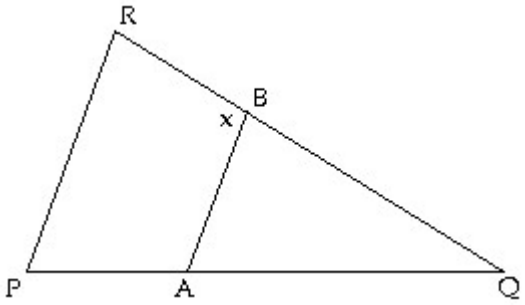
Solve the problem.

1) Given that $\overline{AB} \| \overline{DC}$ & $\overline{AD} \| \overline{BC}$, find the measure of angle x.



A) 75°
B) -95°
C) 125°
D) 105°
Answer: D
Type: BI Var: 31
Topic: 2.1 Lines and Angles
Skill: Recall
Objective: (2.1) Determine Measure of Angle from Information or Diagram

2) If $\overline{AB} \parallel \overline{PR}$, $\angle P = 46°$, and $\angle Q = 47°$, find the measure of angle x.



A) 46°
B) 93°
C) 47°
D) 87°
Answer: B
Type: BI Var: 15
Topic: 2.1 Lines and Angles
Skill: Recall
Objective: (2.1) Determine Measure of Angle from Information or Diagram

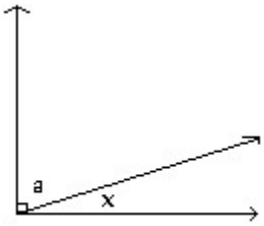
3) Find the supplement of 12°.
A) 258°
B) 348°
C) 168°
D) 78°
Answer: C
Type: BI Var: 50+
Topic: 2.1 Lines and Angles
Skill: Recall
Objective: (2.1) Determine Measure of Angle from Information or Diagram

4) Find the supplement of 118°.
A) 152°
B) 62°
C) Not possible
D) 242°
Answer: B
Type: BI Var: 50+
Topic: 2.1 Lines and Angles
Skill: Recall
Objective: (2.1) Determine Measure of Angle from Information or Diagram

5) Find the complement of 79°.
A) 191°
B) 11°
C) 101°
D) 281°
Answer: B
Type: BI Var: 50+
Topic: 2.1 Lines and Angles
Skill: Recall
Objective: (2.1) Determine Measure of Angle from Information or Diagram

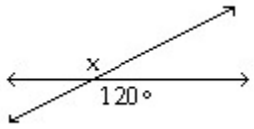
6) Find the measure of angle x.

a = 61°



A) 19°
B) 29°
C) 39°
D) 24°
Answer: B
Type: BI Var: 18
Topic: 2.1 Lines and Angles
Skill: Recall
Objective: (2.1) Determine Measure of Angle from Information or Diagram

7) Find the measure of angle x.



A) 130°
B) 120°
C) 30°
D) 60°
Answer: B
Type: BI Var: 31
Topic: 2.1 Lines and Angles
Skill: Recall
Objective: (2.1) Determine Measure of Angle from Information or Diagram

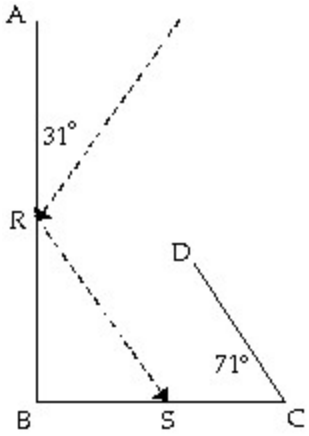
8) Give the measure of the acute angle: 45°, 90°, 116°, 180°.
A) 180°
B) 90°
C) 116°
D) 45°
Answer: D
Type: BI Var: 50+
Topic: 2.1 Lines and Angles
Skill: Recall
Objective: (2.1) Determine Measure of Angle from Information or Diagram

9) Give the measure of the obtuse angle: 64°, 90°, 141°, 180°.
A) 64°
B) 141°
C) 180°
D) 90°
Answer: B
Type: BI Var: 50+
Topic: 2.1 Lines and Angles
Skill: Recall
Objective: (2.1) Determine Measure of Angle from Information or Diagram

2 Solve Apps: Find Lengths and Angle Measures

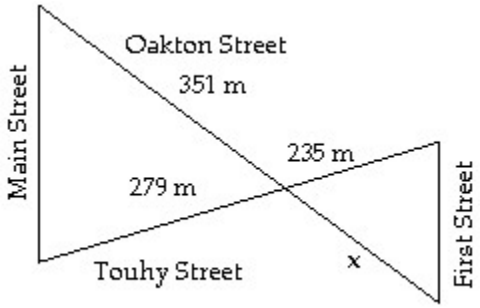
Solve the problem.

1)



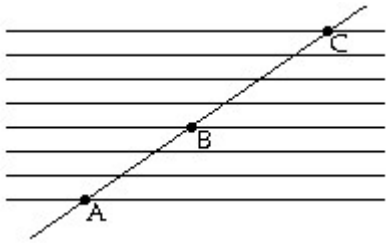
When a beam of light is reflected from a smooth surface, the angle formed by the incoming beam with the surface is equal to the angle formed by the reflected beam and the surface. The beam of light in the figure makes an angle of 31° with $\overline{RA}$. Complete the path of the light beam as it reflects from $\overline{AB}$, from $\overline{BC}$, from $\overline{DC}$, and from $\overline{AB}$ again. At what angle does the beam reflect from $\overline{AB}$ the second time? Assume $\overline{AB}$ is perpendicular to $\overline{BC}$.
A) 78°
B) 69°
C) 47°
D) 81°
Answer: B
Type: BI Var: 50+
Topic: 2.1 Lines and Angles
Skill: Applied
Objective: (2.1) Solve Apps: Find Lengths and Angle Measures

2) If Main Street is parallel to First Street, find the value of x.



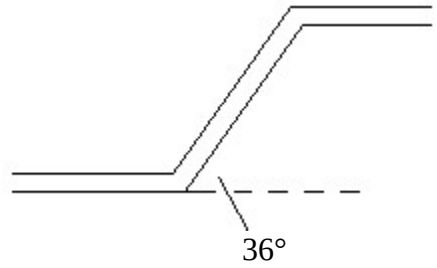
A) 235 m
B) 187 m
C) 296 m
D) 417 m
Answer: C
Type: BI Var: 50+
Topic: 2.1 Lines and Angles
Skill: Applied
Objective: (2.1) Solve Apps: Find Lengths and Angle Measures

3) An electric circuit board has equally spaced parallel wires with connections at points A, B, and C, as shown in the figure. If $AB = 3.42$ cm, what is the length of $\overline{BC}$?



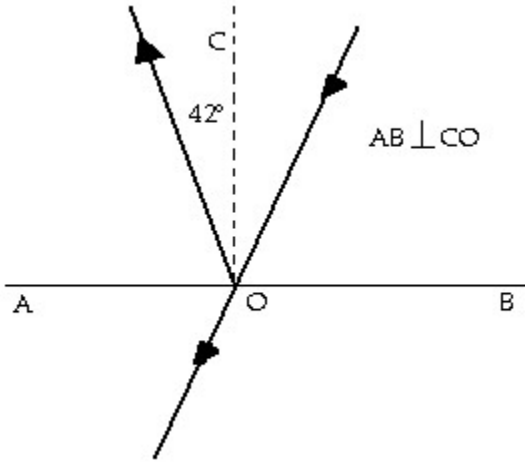
A) 3.42 cm
B) 1.95 cm
C) 4.28 cm
D) 4.56 cm
Answer: D
Type: MC Var: 50+
Topic: 2.1 Lines and Angles
Skill: Applied
Objective: (2.1) Solve Apps: Find Lengths and Angle Measures

4) A part used in manufacturing is shown in the figure. If the upper and lower sections are parallel, what is the angle between the diagonal and the upper section?



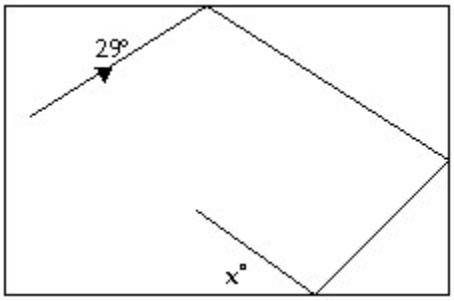
A) 54°
B) 36°
C) 126°
D) 144°
Answer: D
Type: MC Var: 16
Topic: 2.1 Lines and Angles
Skill: Applied
Objective: (2.1) Solve Apps: Find Lengths and Angle Measures

5) A beam of light is partly reflected, and the remainder of the beam passes straight through the surface. Find the angle (angle O) between the surface and the part that passes through.



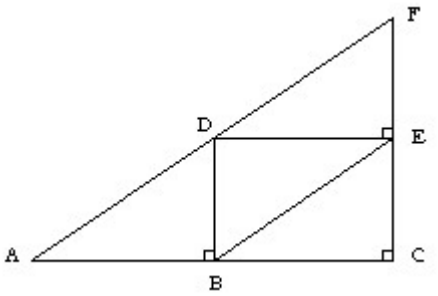
A) 132°
B) 87°
C) 48°
D) 42°
Answer: A
Type: MC Var: 16
Topic: 2.1 Lines and Angles
Skill: Applied
Objective: (2.1) Solve Apps: Find Lengths and Angle Measures

6) A pool ball is hit as shown in the diagram. Find the value of x.



A) 29°
B) 61°
C) 24°
D) 74°
Answer: A
Type: MC Var: 21
Topic: 2.1 Lines and Angles
Skill: Applied
Objective: (2.1) Solve Apps: Find Lengths and Angle Measures

7) Trusses are often used in the construction of buildings. If ∠DAB = 42° what is the measure of ∠BDF in the truss shown below.



A) 132°
B) 48°
C) 90°
D) 42°
Answer: A
Type: BI Var: 12
Topic: 2.1 Lines and Angles
Skill: Applied
Objective: (2.1) Solve Apps: Find Lengths and Angle Measures

2.2 Triangles

1 Find Measure of Angle in Triangle

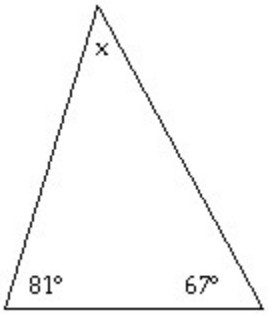
Solve the problem.

1) Two angles of a triangle are 20° and 80°. Find the third angle.
A) 10°
B) 260°
C) 100°
D) 80°
Answer: D
Type: BI Var: 50
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Measure of Angle in Triangle

2) Two angles of a triangle are 37° and 97°. Find the third angle.
A) 226°
B) 46°
C) 134°
D) 44°
Answer: B
Type: BI Var: 50+
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Measure of Angle in Triangle

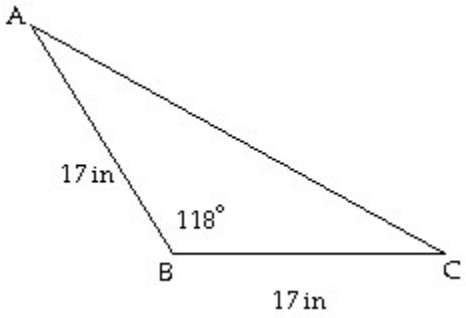
3) One of the base angles of an isosceles triangle is 46°. Find the measures of the other two angles.
A) 46°, 88°
B) 46°, 2°
C) 46°, 268°
D) 46°, 92°
Answer: A
Type: BI Var: 41
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Measure of Angle in Triangle

4) Find x.



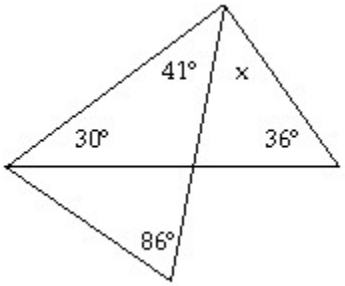
A) 74°
B) 67°
C) 32°
D) 81°
Answer: C
Type: BI Var: 50+
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Measure of Angle in Triangle

5) Find ∠A.



A) 121°
B) 62°
C) 31°
D) 26°
Answer: C
Type: BI Var: 50+
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Measure of Angle in Triangle

6) Determine the value of x.

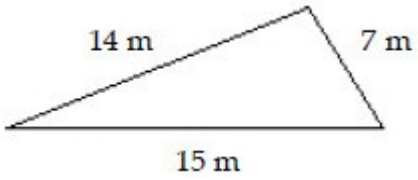


A) 73°
B) 56°
C) 114°
D) 80°
Answer: A
Type: BI Var: 50+
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Measure of Angle in Triangle

2 Find Perimeter of Triangle

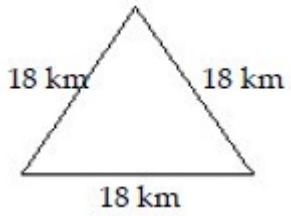
Find the perimeter.

1)



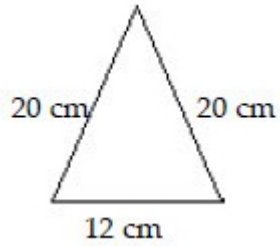
A) 35 m
B) 52.5 m
C) 36 m
D) 29 m
Answer: C
Type: BI Var: 1
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Perimeter of Triangle

2)



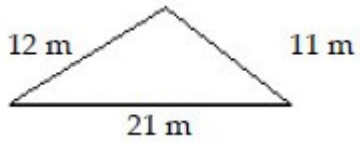
A) 36 km
B) 162 km
C) 54 km
D) 53 km
Answer: C
Type: BI Var: 1
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Perimeter of Triangle

3)



A) 50 cm
B) 52 cm
C) 120 cm
D) 40 cm
Answer: B
Type: BI Var: 1
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Perimeter of Triangle

4)

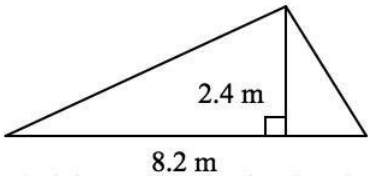


A) 45 m
B) 44 m
C) 43 m
D) 115.5 m
Answer: B
Type: BI Var: 1
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Perimeter of Triangle

3 Find Area of Triangle

Find the area.

1) Find the area of the given triangle:



Answer: 9.8 m^2
Type: SA Var: 1
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Area of Triangle

2) Find the area of a right triangle with a leg of 16.8 cm and a hypotenuse of 25.3 cm.
Answer: 159 cm^2
Type: SA Var: 1
Topic: 2.2 Triangles
Skill: Applied
Objective: (2.2) Find Area of Triangle

3) Find the area of a triangle with sides 3.17 m, 2.89 m, and 4.16 m.
Answer: 4.57 m^2
Type: SA Var: 1
Topic: 2.2 Triangles
Skill: Applied
Objective: (2.2) Find Area of Triangle

4 Find Side of Right Triangle

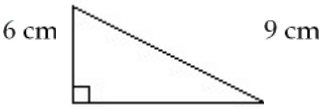
Find the missing length in the right triangle.

1)

16 cm

A) 13 cm
B) 180 cm
C) 360 cm
D) 19 cm
Answer: D
Type: BI Var: 50+
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Side of Right Triangle

2)



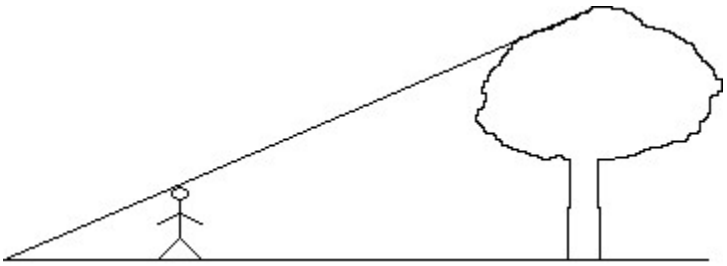
A) 6.7 cm
B) 23 cm
C) 7.5 cm
D) 45 cm
Answer: A
Type: BI Var: 50+
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Side of Right Triangle

3) The legs of a right triangle are 93.1 cm and 60.4 cm. Find the length of the hypotenuse.
A) 70.8 cm
B) 110 cm
C) 71 cm
D) 111 cm
Answer: D
Type: BI Var: 50+
Topic: 2.2 Triangles
Skill: Recall
Objective: (2.2) Find Side of Right Triangle

5 Solve Apps: Use Properties of Triangles

Solve the problem. Round your result to an appropriate number of significant digits.

1) Hye-Ran, who is 1.92 m tall, wishes to find the height of a tree. She walks 22.37 m from the base of the tree along the shadow of the tree until her head is in a position where the tip of her shadow exactly overlaps the end of the tree top's shadow. She is now 9.94 m from the end of the shadows. How tall is the tree? Round to the nearest hundredth.



A) 0.853 m
B) 6.24 m
C) 4.32 m
D) 3.46 m
Answer: B
Type: BI Var: 50+
Topic: 2.2 Triangles
Skill: Applied
Objective: (2.2) Solve Apps: Use Properties of Triangles

2) On a cloudy day, Sun Woo needed to know the height of a window in a building. Sun Woo positioned a mirror on the ground between himself and the building so that when he looked in the mirror, he saw the window. If the mirror was 20.63 cm from his feet and 34.98 m from the base of the building and Sun Woo's eye was 1.82 m above the ground, how high up on the building was the window located? Round to the nearest unit.
A) 309 m
B) 107 m
C) 1.07 m
D) 3.09 m
Answer: A
Type: BI Var: 50+
Topic: 2.2 Triangles
Skill: Applied
Objective: (2.2) Solve Apps: Use Properties of Triangles

3) Joe has a pennant for the University of Michigan. It is in the shape of an isosceles triangle. If each equal side is 70.1 cm and the third side is 31.6 cm, what is the area of the pennant?
A) 1110 cm^2
B) 172 cm^2
C) 989 cm^2
D) 1080 cm^2
Answer: D
Type: BI Var: 50+
Topic: 2.2 Triangles
Skill: Applied
Objective: (2.2) Solve Apps: Use Properties of Triangles

2.3 Quadrilaterals

1 Find Perimeter of Quadrilateral

Solve the problem.

1) Find the perimeter of a square with a side of 1.24 cm.
A) 5.0 cm
B) 2.48 cm
C) 4.96 cm
D) 1.54 cm
Answer: C
Type: BI Var: 50+
Topic: 2.3 Quadrilaterals
Skill: Recall
Objective: (2.3) Find Perimeter of Quadrilateral

2) Find the perimeter of a rhombus with a side of 1.49 mm.
A) 5.96 mm
B) 2.98 mm
C) 2.22 mm
D) 6.0 mm
Answer: A
Type: BI Var: 50+
Topic: 2.3 Quadrilaterals
Skill: Recall
Objective: (2.3) Find Perimeter of Quadrilateral

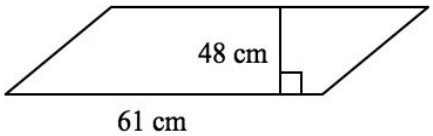
3) Find the perimeter of an isosceles trapezoid with short base of 45.3 cm, long base of 56.7 cm, and height of 37.8 cm.
A) 216.3 cm
B) 178.0 cm
C) 178.5 cm
D) 177.6 cm
Answer: C
Type: BI Var: 50+
Topic: 2.3 Quadrilaterals
Skill: Applied
Objective: (2.3) Find Perimeter of Quadrilateral

2 Find Area of Quadrilateral

Solve the problem.

1) Find the area of a square with side of 6.3 cm.
A) 25.2 cm^2
B) 20 cm^2
C) 40 cm^2
D) 39.7 cm^2
Answer: C
Type: BI Var: 50+
Topic: 2.3 Quadrilaterals
Skill: Recall
Objective: (2.3) Find Area of Quadrilateral

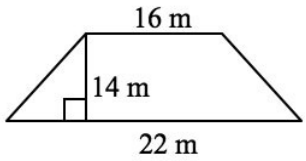
2) Find the area of the given parallelogram:



Answer: 2900 cm^2
Type: SA Var: 1
Topic: 2.3 Quadrilaterals
Skill: Recall
Objective: (2.3) Find Area of Quadrilateral

3) Find the area of a rectangle with length 8.5 mm and width $4.0\,\text{mm}$.
A) $34.0\ \text{mm}^2$
B) $25\ \text{mm}^2$
C) $34\ \text{mm}^2$
D) $25.0\ \text{mm}^2$
Answer: C
Type: BI Var: 50+
Topic: 2.3 Quadrilaterals
Skill: Recall
Objective: (2.3) Find Area of Quadrilateral

4) Find the area of the given quadrilateral:



Answer: $270\ \text{m}^2$
Type: SA Var: 1
Topic: 2.3 Quadrilaterals
Skill: Recall
Objective: (2.3) Find Area of Quadrilateral

3 Solve Apps: Find Area/Perimeter of Quadrilateral

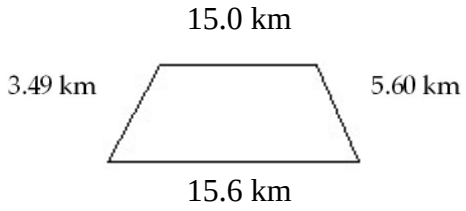
Solve the problem.

1) The perimeter of a rectangular room is 46 m The width is 10 m. Find the length.
A) 14 m
B) 13 m
C) 36 m
D) 12 m
Answer: B
Type: BI Var: 1
Topic: 2.3 Quadrilaterals
Skill: Applied
Objective: (2.3) Solve Apps: Find Area/Perimeter of Quadrilateral

2) A small farm field is a square measuring 300 m on a side. What is the perimeter of the field? If you double the length of each side of the field, what is the new perimeter?
A) 600 m, 1200 m
B) 600 m, 2400 m
C) 300 m, 1200 m
D) 1200 m, 2400 m
Answer: D
Type: BI Var: 1
Topic: 2.3 Quadrilaterals
Skill: Applied
Objective: (2.3) Solve Apps: Find Area/Perimeter of Quadrilateral

3) A one-story building occupies a rectangle space of 202 m by 121 m. If a square patio with sides 27 m occupies the centre of the building, how much area remains for offices?
A) 540 m^2
B) 24,000 m^2
C) 620 m^2
D) 650 m^2
Answer: B
Type: BI Var: 1
Topic: 2.3 Quadrilaterals
Skill: Applied
Objective: (2.3) Solve Apps: Find Area/Perimeter of Quadrilateral

4) A bike trail is in the shape of a trapezoid. Find the distance around the trail.



A) 39.69 km
B) 39.7 km
C) 19.5 km
D) 87.36 km
Answer: B
Type: BI Var: 50+
Topic: 2.3 Quadrilaterals
Skill: Applied
Objective: (2.3) Solve Apps: Find Area/Perimeter of Quadrilateral

2.4 Circles

1 Find Circumference

Find the circumference of the circle with the given radius or diameter.

1) r = 3.98 cm
A) 25.0 cm
B) 25.01 cm
C) 49.8 cm
D) 12.5 cm
Answer: A
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Circumference

2) r = 44.4 cm
A) 279 cm
B) 139 cm
C) 6193 cm
D) 279.0 cm
Answer: A
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Circumference

3) d = 5.28 cm
A) 33.18 cm
B) 16.6 cm
C) 33.2 cm
D) 16.59 cm
Answer: B
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Circumference

4) d = 69.3 mm
A) 435 mm
B) 217.7 mm
C) 435.4 mm
D) 218 mm
Answer: D
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Circumference

2 Find Area

Find the area of the circle.

1) A circle with diameter 28 cm
A) 88 cm^2
B) 620 cm^2
C) 2500 cm^2
D) 180 cm^2
Answer: B
Type: BI Var: 1
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Area

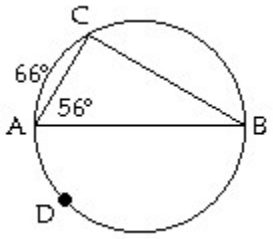
2) A circle with diameter 18.5 mm
A) 58.1 mm^2
B) 116 mm^2
C) 1080 mm^2
D) 269 mm^2
Answer: D
Type: BI Var: 1
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Area

3) Find the area of a circle of radius 17.4 cm.
Answer: 951 cm^2
Type: SA Var: 1
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Area

3 Find Angles, Arcs

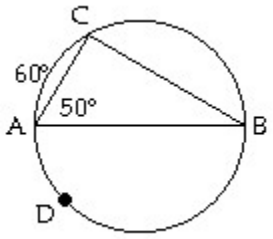
Determine the indicated arc or angle.

1) Find $\overset{\frown}{BC}$.



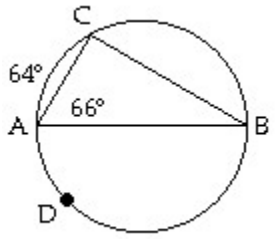
A) 56°
B) 114°
C) 112°
D) 28°
Answer: C
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Angles, Arcs

2) Find $\overset{\frown}{ADB}$.



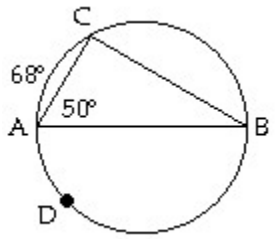
A) 275°
B) 250°
C) 200°
D) 180°
Answer: C
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Applied
Objective: (2.4) Find Angles, Arcs

3) Find ∠ABC.



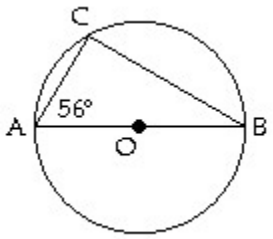
A) 32°
B) 24°
C) 64°
D) 66°
Answer: A
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Angles, Arcs

4) Find ∠ACB.



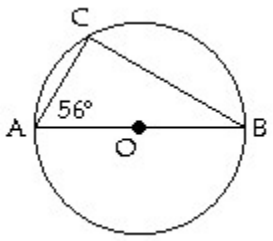
A) 62°
B) 96°
C) 87°
D) 90°
Answer: B
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Applied
Objective: (2.4) Find Angles, Arcs

5) Find $\overset{\frown}{AC}$.



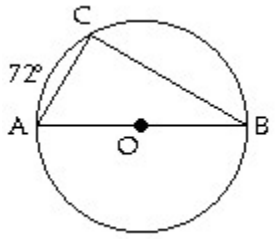
A) 112°
B) 124°
C) Not enough information.
D) 68°
Answer: D
Type: BI Var: 11
Topic: 2.4 Circles
Skill: Applied
Objective: (2.4) Find Angles, Arcs

6) Find ∠ACB.



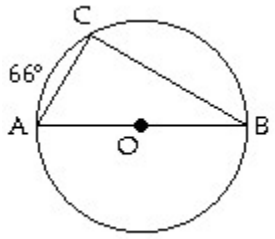
A) 90°
B) 68°
C) Not enough information.
D) 124°
Answer: A
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Angles, Arcs

7) Find ∠CAB.



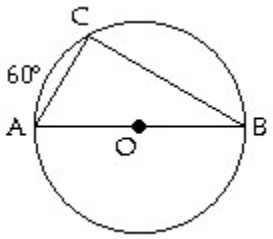
A) 54°
B) 18°
C) Not enough information.
D) 36°
Answer: A
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Applied
Objective: (2.4) Find Angles, Arcs

8) Find $\overset{\frown}{BC}$.



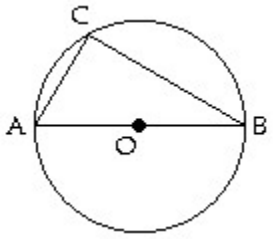
A) 123°
B) 66°
C) 114°
D) Not enough information.
Answer: C
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Applied
Objective: (2.4) Find Angles, Arcs

9) Find $\overset{\frown}{ACB}$.



A) Not enough information.
B) 150°
C) 240°
D) 180°
Answer: D
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Angles, Arcs

10) Find ∠ACB.



A) Not enough information.
B) 90°
Answer: B
Type: BI Var: 1
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Angles, Arcs

4 Convert to Radian Measure

Convert to radian measure. Round to two decimal places.

1) -261.6°
A) -4.57
B) -4.58
C) -4.56
D) -4.59
Answer: A
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Convert to Radian Measure

2) 71.7°
A) 1.22
B) 1.23
C) 1.25
D) 1.26
Answer: C
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Convert to Radian Measure

3) 169.1°
A) 2.95
B) 2.96
C) 2.84
D) 2.83
Answer: A
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Convert to Radian Measure

5 Arc Length with Radian Measure

Determine the length of the arc formed by the central angle.

1) Circle with radius 6.32 cm and central angle 0.785 radians.
A) 4.96 cm
B) 5 cm
C) 284 cm
D) 15.6 cm
Answer: A
Type: BI Var: 1
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Arc Length with Radian Measure

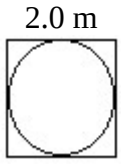
2) Circle with diameter 4.2 m and central angle 1.18 radians.
A) 4.9 m
B) 5.0 m
C) 2.5 m
D) 2.4 m
Answer: C
Type: BI Var: 1
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Arc Length with Radian Measure

3) Circle with diameter 8.551 m and central angle 5.5 radians.
A) 47.03 m
B) 47 m
C) 23.52 m
D) 24 m
Answer: D
Type: BI Var: 1
Topic: 2.4 Circles
Skill: Recall
Objective: (2.4) Find Arc Length with Radian Measure

6 Solve Apps: Solve Area, Circumference, Angle Problems

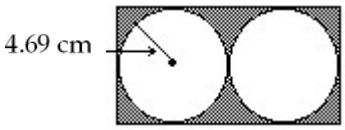
Solve the problem.

1) A small circular pool is enclosed in a square. Find the area inside the square but outside the circle.



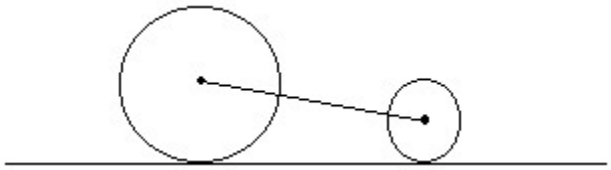
A) 4.9 m^2
B) 0.86 m^2
C) 13 m^2
D) 3.1 m^2
Answer: B
Type: BI Var: 30
Topic: 2.4 Circles
Skill: Applied
Objective: (2.4) Solve Apps: Solve Area, Circumference, Angle Problems

2) Find the shaded area in the figure.



A) 18.9 cm^2
B) 107 cm^2
C) 37.8 cm^2
D) Not enough information.
Answer: C
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Applied
Objective: (2.4) Solve Apps: Solve Area, Circumference, Angle Problems

3) Two wheels of radius 15.98 cm and 13.67 cm respectively rest on the ground. If the centres of the wheels are 33.73 cm apart, how far apart are the points where they touch the ground?



A) 29.70 cm
B) 33.73 cm
C) 30.84 cm
D) 33.65 cm
Answer: D
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Applied
Objective: (2.4) Solve Apps: Solve Area, Circumference, Angle Problems

4) What is the area of the largest circle that can be cut from a rectangular plate that is 21.5 cm by 17.1 cm?
A) 1160 cm^2
B) 363 cm^2
C) 230 cm^2
D) 919 cm^2
Answer: C
Type: BI Var: 50+
Topic: 2.4 Circles
Skill: Applied
Objective: (2.4) Solve Apps: Solve Area, Circumference, Angle Problems

2.5 Measurement of Irregular Areas

1 Solve Apps: Use Trapezoidal Rule

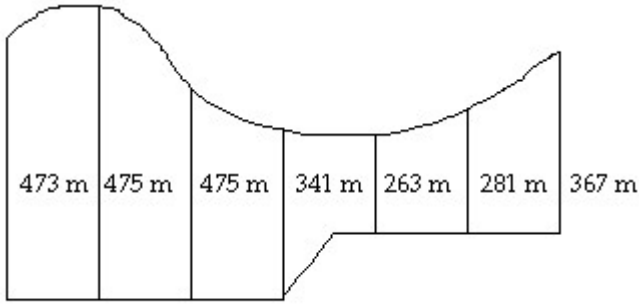
Use the trapezoidal rule to find the area.

1) The widths of a small pond were measured at 1.5-m intervals as shown in the following table. Find the area.

Distance (m)	0.0	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0
Width (m)	0.0	7.7	4.8	9.6	6.6	6.5	7.3	9.8	0.0

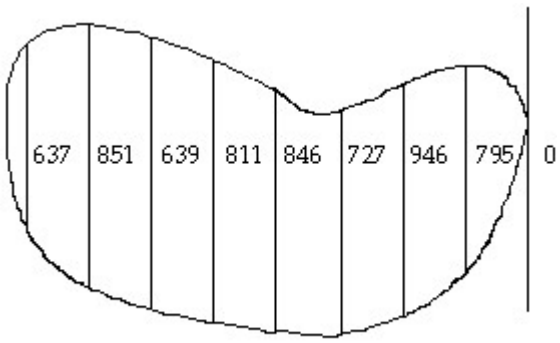
A) 160 m^2
B) 86 m^2
C) 78 m^2
D) 71 m^2
Answer: C
Type: BI Var: 50+
Topic: 2.5 Measurement of Irregular Areas
Skill: Applied
Objective: (2.5) Solve Apps: Use Trapezoidal Rule

2) A parking lot was measured every 100 m (three significant digits). The measurements (in metres) are given in the diagram. Find the area.



A) 226,000 m^2
B) 268,000 m^2
C) 599,000 m^2
D) 670,000 m^2
Answer: A
Type: BI Var: 50+
Topic: 2.5 Measurement of Irregular Areas
Skill: Applied
Objective: (2.5) Solve Apps: Use Trapezoidal Rule

3) A pond was measured every 290 m. The distances across the pond (in metres) are given in the diagram. Find the area.



A) 1,600,000 m^2
B) 1,700,000 m^2
C) 2,600,000 m^2
D) 2,400,000 m^2
Answer: B
Type: BI Var: 50+
Topic: 2.5 Measurement of Irregular Areas
Skill: Applied
Objective: (2.5) Solve Apps: Use Trapezoidal Rule

2 Solve Apps: Use Simpson's Rule

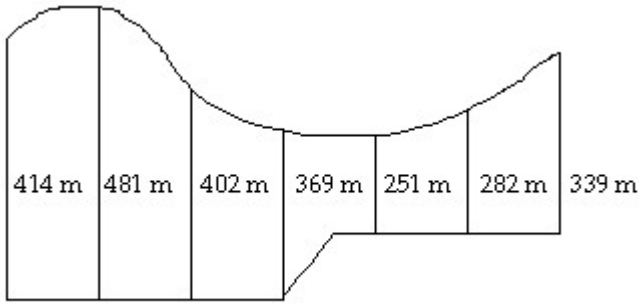
Use Simpson's rule to find the area.

1) The widths of a small pond were measured at 1.5-m intervals as shown in the following table. Find the area.

Distance (m)	0.0	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0
Width (m)	0.0	2.1	2.7	3.9	3.8	4.1	2.1	3.2	0.0

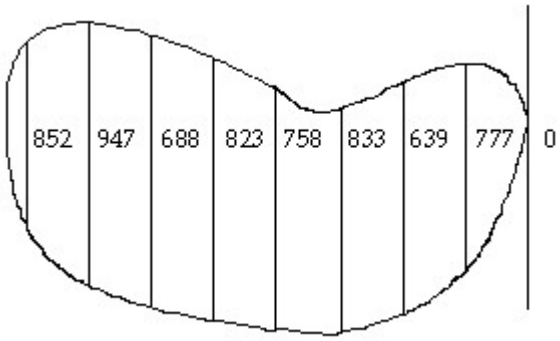
A) 66 m^2
B) 38 m^2
C) 35 m^2
D) 41 m^2
Answer: C
Type: BI Var: 50+
Topic: 2.5 Measurement of Irregular Areas
Skill: Applied
Objective: (2.5) Solve Apps: Use Simpson's Rule

2) A parking lot was measured every 100 m (three significant digits). The measurements (in metres) are given in the diagram. Find the area.



A) 254,000 m^2
B) 329,000 m^2
C) 188,000 m^2
D) 220,000 m^2
Answer: D
Type: BI Var: 50+
Topic: 2.5 Measurement of Irregular Areas
Skill: Applied
Objective: (2.5) Solve Apps: Use Simpson's Rule

3) A pond was measured every 270 m. The distances across the pond (in metres) are given in the diagram. Find the area.



A) 1,400,000 m^2
B) 1,500,000 m^2
C) 1,600,000 m^2
D) 1,700,000 m^2
Answer: D
Type: BI Var: 50+
Topic: 2.5 Measurement of Irregular Areas
Skill: Applied
Objective: (2.5) Solve Apps: Use Simpson's Rule

2.6 Solid Geometric Figures

1 Find Volume of Solid Figure

Find the volume.

1) A cone with height 6.1 cm and diameter 6.5 cm.
A) 83 cm^3
B) 270 cm^3
C) 400 cm^3
D) 67 cm^3
Answer: D
Type: BI Var: 50+
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Find Volume of Solid Figure

2) A rectangular pyramid with base area 18.5 m^2 and height 4.0 m.
A) 74 m^3
B) 23 m^3
C) 25 m^3
D) 37 m^3
Answer: C
Type: BI Var: 50+
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Find Volume of Solid Figure

3) A rectangular solid with base area 24.0 m^2 and height 8.25 m.
A) 198 m^3
B) 200 m^3
C) 48 m^3
D) 40 m^3
Answer: A
Type: BI Var: 1
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Find Volume of Solid Figure

4) A sphere with diameter 3.6 m.
A) 195 m^3
B) 24 m^3
C) 200 m^3
D) 25 m^3
Answer: B
Type: BI Var: 1
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Find Volume of Solid Figure

2 Find Surface Area of Solid Figure

Solve the problem.

1) Find the total surface area of a box 11.4 cm by 16.8 cm by 23.6 cm.
A) 1320 cm^2
B) 855 cm^2
C) 1710 cm^2
D) 1560 cm^2
Answer: C
Type: BI Var: 50+
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Find Surface Area of Solid Figure

2) Find the total surface area of a right circular cylinder with d = 9.6 m, h = 6.8 m.
A) 989 m^2
B) 350 m^2
C) 205 m^2
D) 410 m^2
Answer: B
Type: BI Var: 50+
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Find Surface Area of Solid Figure

3) Find the total surface area of a regular square pyramid with base edges 1.93 cm and lateral edges 9.91 cm.
A) 42.0 cm^2
B) 42.2 cm^2
C) 38.1 cm^2
D) 41.8 cm^2
Answer: D
Type: BI Var: 50+
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Find Surface Area of Solid Figure

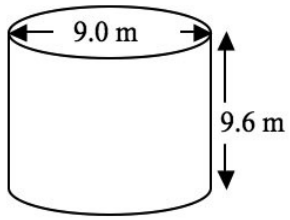
4) Find the lateral surface area of a right circular cone with a radius of 57.5 cm and a slant height of 92.0 cm.
A) 8310 cm^2
B) 27,000 cm^2
C) 16,600 cm^2
D) 319,000 cm^2
Answer: C
Type: BI Var: 50+
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Find Surface Area of Solid Figure

5) Find the surface area of a sphere with a diameter of 31.5 cm.
A) 3120 cm^2
B) 12,500 cm^2
C) 99.0 cm^2
D) 6230 cm^2
Answer: A
Type: BI Var: 1
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Find Surface Area of Solid Figure

3 Solve Apps: Find Area/Volume of Solid Figure

Solve the problem.

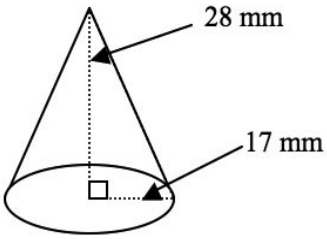
1) Find the volume of the given circular cylinder:



Answer: 610 m^3
Type: SA Var: 1
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Solve Apps: Find Area/Volume of Solid Figure

2) Find the volume of a sphere of radius 35.1 mm.
Answer: 181,000 mm^3
Type: SA Var: 1
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Solve Apps: Find Area/Volume of Solid Figure

3) Find the volume of the given cone:



Answer: 8500 mm^3
Type: SA Var: 1
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Solve Apps: Find Area/Volume of Solid Figure

4) Find the volume of a regular pyramid with a square base of side 7.8 cm and a height of 13 cm.
Answer: 260 cm^3
Type: SA Var: 1
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Solve Apps: Find Area/Volume of Solid Figure

5) A model of a pyramid has a square base 530 cm on a side and a height of 220 cm. Find the volume.
A) 16,000,000 cm^3
B) 21,000,000 cm^3
C) 20,600,000 cm^3
D) 62,000,000 cm^3
Answer: B
Type: BI Var: 50+
Topic: 2.6 Solid Geometric Figures
Skill: Recall
Objective: (2.6) Solve Apps: Find Area/Volume of Solid Figure