Basic Technical
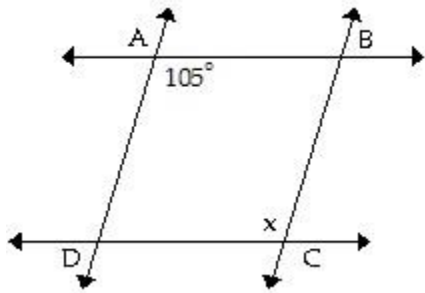Mathematics
Ninth Edition   *With Calculus*

Allyn J. Washington

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.
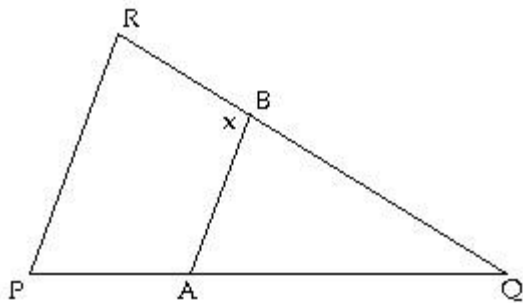
Solve the problem.

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

1) _____

     A) 125°   B) 75°   C) -95°   D) 105°

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

2) _____

     A) 93°   B) 87°   C) 47°   D) 46°

3) Find the supplement of 12°.

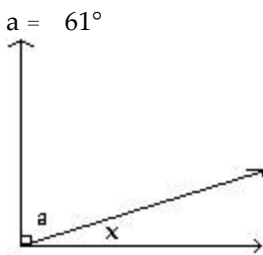3) _____

     A) 258°   B) 78°   C) 168°   D) 348°

4) Find the supplement of 118°.

4) _____

     A) 152°   B) 62°
     C) 242°   D) Not possible

5) Find the complement of 79°.

5) _____

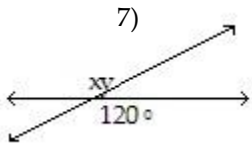   A) 101°   B) 11°   C) 281°   D) 191°

6) Find the measure of angle x.

6) _____

a = 61°

     A) 29°   B) 19°   C) 24°   D) 39°

7) Find the measure of angle x.

7)

    A) 60°   B) 30°   C) 130°   D) 120°

8) Give the measure of the acute angle: 45°, 90°, 116°, 180°.   8) _____
    A) 116°   B) 180°   C) 90°   D) 45°

9) Give the measure of the obtuse angle: 64°, 90°, 141°, 180°.   9) _____
    A) 141°   B) 180°   C) 90°   D) 64°

10)   10) _____
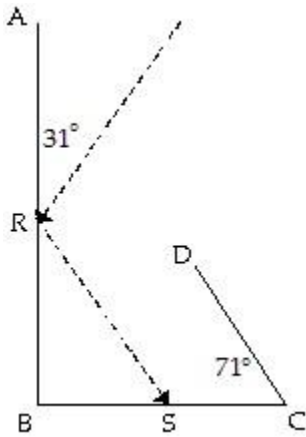
When a beam of light is reflected from a smooth surface, the angle
formed by the incoming beam with the surface is equal to the angle
formed by the reflected beam and the surface. The beam of light in the
figure makes an angle of   31° with $\overline{RA}$. Complete the path of the light
beam as it reflects 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?
    A) 78°   B) 69°   C) 81°   D) 47°

11) If Main Street is parallel to First Street, find the value of x.   11) _____
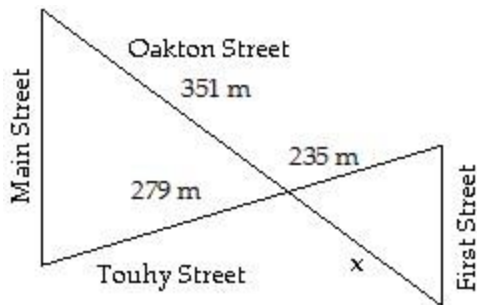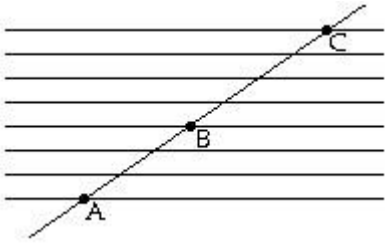

    A) 235 m   B) 417 m   C) 296 m   D) 187 m

12) An electric circuit board has equally spaced parallel wires with $AB = 3.42$ cm,
    connections at points A, B, and C, as shown in the figure.   If   the length
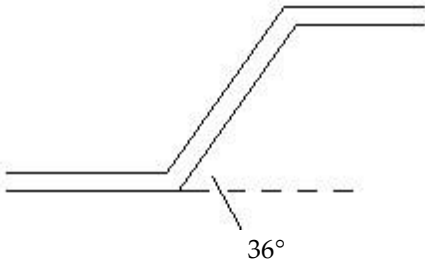   wh

of $\overline{BC}$? 12)


A) 3.42 cm   B) 1.95 cm   C) 4.56 cm   D) 4.28 cm

13) A part used in manufacturing is shown in the figure.   If the upper and   13) _____
lower sections are parallel, what is the angle between the diagonal and
the upper section?

36°

A) 54°   B) 36°   C) 126°   D) 144°
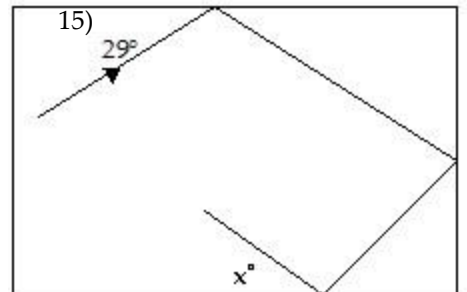
14) A beam of light is partly reflected, and the remainder of the beam passes   14) _____
straight through the surface.   Find the angle (angle O) between the
surface and the part that passes through.

$AB \perp CO$
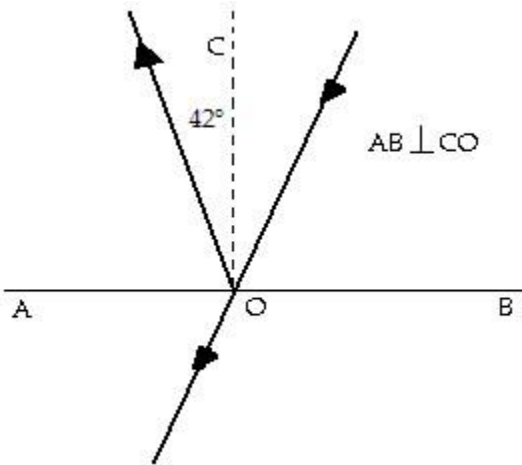
A) 132°   B) 42°   C) 48°   D) 87°

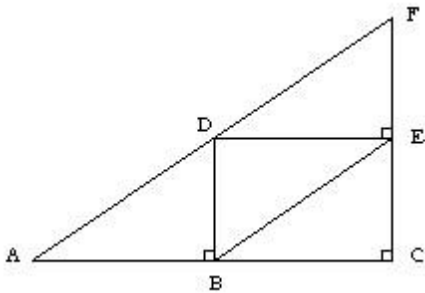15) A pool ball is hit as shown in the diagram.   Find the value of x.   15)

29°

$x°$

_____

A) 29°   B) 24°   C) 61°   D) 74°

16) Trusses are often used in the construction of buildings. If ∠DAB = 42°   16) _____
    what is the measure of ∠BDF in the truss shown below.

   A) 132°   B) 90°   C) 42°   D) 48°

17) Two angles of a triangle are 20° and 80°. Find the third angle.   17) _____
    A) 80°   B) 10°   C) 260°   D) 100°

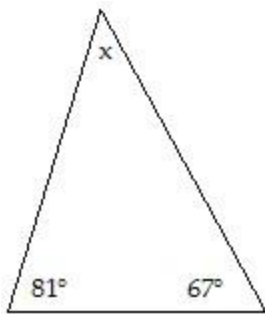18) Two angles of a triangle are 37° and 97°. Find the third angle.   18) _____
    A) 226°   B) 46°   C) 134°   D) 44°

19) One of the base angles of an isosceles triangle is 46°. Find the measures 19) _____
    of the other two angles.
    A) 46°,   B) 46°, 2°   C) 46°, 88°   D) 46°, 92°
       268°
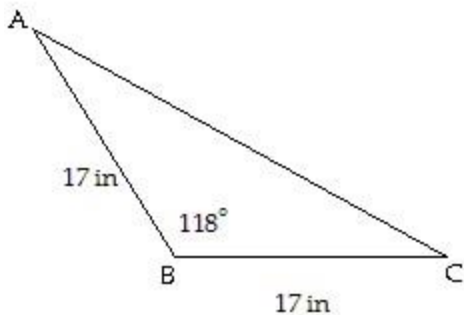
20) Find x.   20) _____

   A) 81°   B) 67°   C) 32°   D) 74°

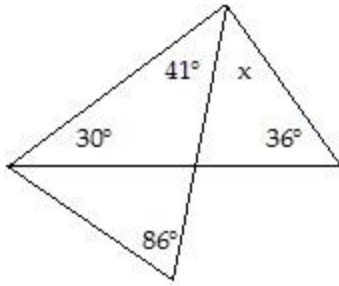21) Find ∠A.   21) _____

   A) 26°   B) 121°   C) 31°   D) 62°

22) Determine the value of x.

A) 80°   B) 56°   C) 73°   D) 114°

22) _____

Find the perimeter.

23)

8 ft   4 ft

9 ft
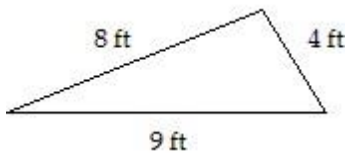
A) 18   ft   B) 20   ft   C) 21   ft   D) 17   ft

23) _____

24)

14 mi   14 mi

14 mi
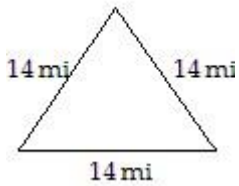
A) 41   mi   B) 42   mi   C) 28   mi   D) 98   mi

24) _____

25)

19 yd   19 yd

14 yd
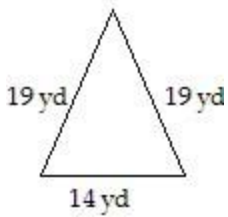
A) 133   yd   B) 38   yd   C) 52   yd   D) 50   yd

25) _____

26)

8 yd   7 yd

19 yd
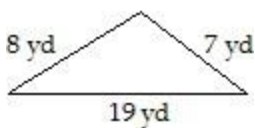
A) 33   yd   B) 35   yd   C) 66.5   yd   D) 34   yd

26) _____

Find the area.

27)

25 cm

28 cm
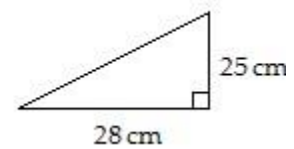
27) _____

   A) 180 cm²   B) 310 cm²   C) 350 cm²   D) 700 cm²

28) 28) _____
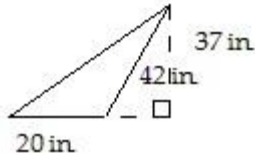
   A) 740 in.²   B) 777 in.²   C) 680 in.²   D) 370 in.²

29) 29) _____
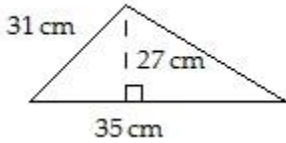
   A) 470 cm²   B) 360 cm²   C) 420 cm²   D) 950 cm²

30) 30) _____
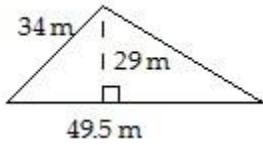
   A) 1400 m²   B) 490 m²   C) 720 m²   D) 420 m²

31) 31) _____
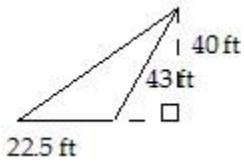
   A) 860 ft²   B) 800 ft²   C) 900 ft²   D) 450 ft²

32) 32) _____

a = 50 mi. b = 45 mi

   A) 2300   B) 550 mi²   C) 1000   D) 1100

     mi²   mi²   mi²
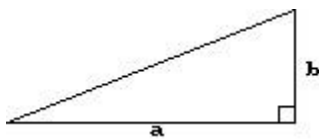
33) 33) _____
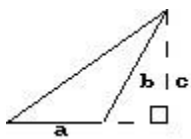
a = 20 yd, b = 33 yd, c = 27 yd

   A) 270 yd²   B) 360 yd²   C) 446 yd²   D) 540 yd²

34)
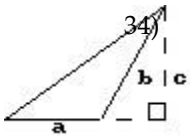
a = 21.5 cm, b = 49 cm, c = 44 cm

A) 470 cm^2 B) 950 cm^2

C) 970 cm^2 D) 1100 cm^2

Find the missing length in the right triangle.

35)

10 cm

16 cm
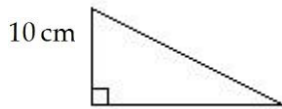
A) 13 cm B) 360 cm C) 180 cm D) 19 cm

35) _____

36)

6 cm 9 cm

A) 23 cm B) 45 cm C) 6.7 cm D) 7.5 cm

36) _____

37)

16 in.
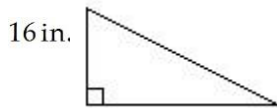
17 in.

A) 17 in. B) 280 in. C) 24 in. D) 550 in.

37) _____

38)

4 mi 8 mi

A) 24 mi B) 6.9 mi C) 6.0 mi D) 48 mi

38) _____

39) The legs of a right triangle are 93.1 cm and 60.4 cm. Find the length of the hypotenuse.

A) 110 cm B) 70.8 cm C) 111 cm D) 71 cm

39) _____

40) The hypotenuse of a right triangle is 57.8 in. and one leg is 29.1 in. Find the length of the other leg.

A) 49.9 in. B) 65 in. C) 50 in. D) 64.7 in.

40) _____

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

41) In order to measure the distance across a pond (from A to B), Raul made the measurements shown in the drawing. What is the distance?

A 41)
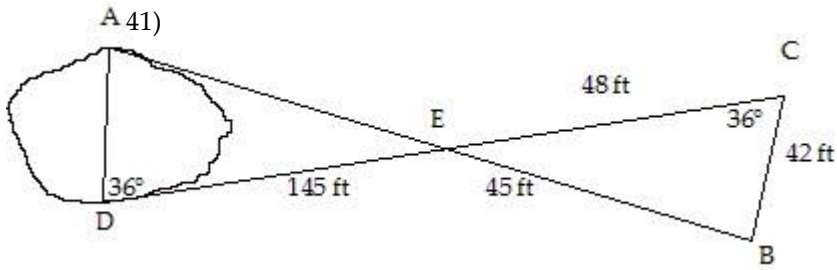
A) 130 ft   B) 160 ft   C) 140 ft   D) 170 ft

42) A church steeple casts a shadow 113 ft long, and at the same time a   42) _____
    9.00-ft post cast a shadow 5.00 ft long. How high is the steeple?
        A) 200 ft   B) 133 ft   C) 203 ft   D) 63 ft

43) A line from the top of a cliff to the ground passes just over the top of a   43) _____
    pole 9.0 ft high and meets the ground at a point 5.0 ft from the base of
    the pole. If the point is 92 ft from the base of the cliff, how high is the
    cliff?
        A) 0.00 ft   B) 200 ft   C) 0.50 ft   D) 166 ft

44) A lake lies between A and C, and lines AB and DE run north-south. If   44) _____
    $\overline{AB} = 7.5$ mi,
    $\overline{DE} = 2.3$ mi, and $\overline{DC} = 1.2$ mi, how far is it from A to C?
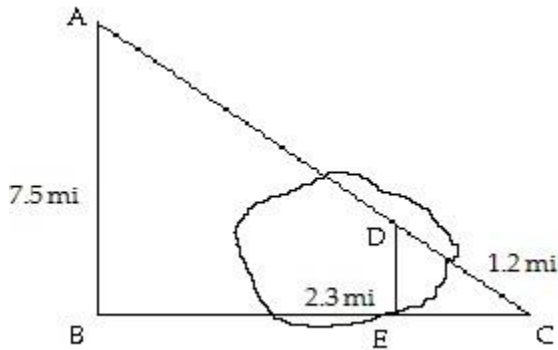
A) 14.4 mi   B) 4 mi   C) 3.9 mi   D) 2.7 mi

45) Julia, who is 1.58 m tall, wishes to find the height of a tree. She walks   45) _____
    23.76 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 9.41 m from the end of the
    shadows. How tall is the tree? Round to the nearest hundredth.
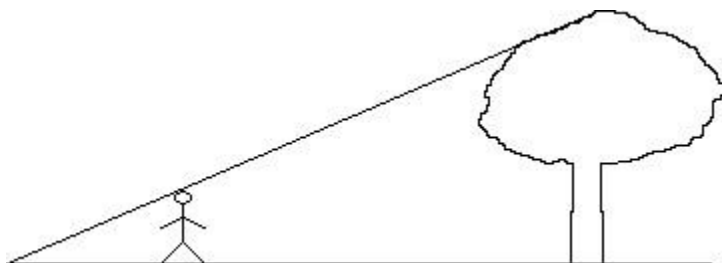
A) 2.62 m   B) 5.57 m   C) 3.99 m   D) 0.626 m

46) On a cloudy day, Emanuel needed to know the height of a window in a building. Emanuel 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 20.28 cm from his feet and 33.46 m from the base of the building and Emanuel's eye was 1.8 m above the ground, how high up on the building was the window located? Round to the nearest unit.

    A) 297 m   B) 2.97 m   C) 1.09 m   D) 109 m

46) _____

47) Joe has a pennant for the University of Michigan. It is in the shape of an isosceles triangle. If each equal side is 74.1 cm and the third side is 29.0 cm, what is the area of the pennant?

    A) 989 cm^2 B) 1070 cm^2 C) 177 cm^2 D) 1050 cm^2

47) _____

48) A rectangular classroom is 10.0 ft wide, 21.0 ft long, and 8.0 feet high. What is the length of the longest diagonal from one corner to another corner of the room?

    A) 23 ft   B) 25 ft   C) 31 ft   D) 39 ft

48) _____

Solve the problem.

49) Find the perimeter of a square with a side of 1.24 cm.

    A) 5.0 cm   B) 4.96 cm   C) 1.54 cm   D) 2.48 cm

49) _____

50) Find the perimeter of a rhombus with a side of 1.49 mm.

    A) 2.22 mm   B) 2.98 mm   C) 5.96 mm   D) 6.0 mm

50) _____

51) Find the perimeter of a square with a side of 23.2 in.

    A) 92.80 in.   B) 538.2 in.   C) 92.8 in.   D) 93 in.

51) _____

52) Find the perimeter of a rhombus with a side of 23.4 ft.

    A) 93.6 ft   B) 98 ft   C) 46.8 ft   D) 547.6 ft

52) _____

53) Find the perimeter of a rectangle with length of 78.64 cm and width of 56.29 cm.

    A) 4426.6 cm   B) 269.9 cm

    C) 269.86 cm   D) 4427 cm

53) _____

54) Find the perimeter of a rectangle with length of 125.68 in. and width of 166.48 in.

    A) 584.3 in.   B) 20,923.2 in.

    C) 20,923 in.   D) 584.32 in.

54) _____

55) 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) 178.5 cm   B) 216.3 cm   C) 178.0 cm   D) 177.6 cm

55) _____

56) Find the perimeter of a parallelogram with bases of 76.0 in. and 37.1 in. and height of 23.0 in.

    A) 249.2 in.   B) 226.2 in.   C) 198 in.   D) 212.1 in.

56) _____

57) Find the area of a square with side of 6.3 cm.

    A)   40 cm^2 B)   25

57) _____

.2 cm²   C)   39   D)   20
                       .7   cm²
                       cm²

58) Find the area of a square with side of   16.3 in.   58) _____
    A) 133 in.²   B) 65.2 in.²   C) 265.7   D) 266 in.²
                                           in.²

59) Find the area of a rectangle with length   8.5 mm and width 4.0 mm.   59) _____
    A) 25 mm²   B) 34 mm²
    C) 25.0 mm²   D) 34.0 mm²

60) Find the area of a rectangle with length   24.0 in. and width 14.8 in.   60) _____
    A) 355 in.²   B) 77.6 in.²   C) 355.2   D) 78 in.²
   in.²

61) Find the area of a parallelogram with a base of   36   m and a height of   61) _____
    18   m.
    A) 1300 m²   B) 648 m²   C) 320 m²   D) 650 m²

62) Find the area of a parallelogram with a base of 53 m and a height of   62) _____
    29 m.
    A) 840 m²   B) 1537 m²   C) 1500 m²   D) 2800 m²

63) Find the area of a parallelogram with a base of   61   yd and a height of   63) _____
    59 yd.
    A) 3700   B) 3600   C) 3599   D) 3500
        yd²   yd²   yd²   yd²

64) Find the area of a trapezoid with short base of   36   in., long base of   48   64) _____
    in., and height of   86   in.
    A) 7200   B) 3600   C) 2100   D) 860 in.²
        in.²   in.²   in.²

65) Find the area.   65) _____
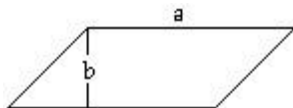
    a =   64   m   b =   96   m
    A) $488{,}000$ m²   B) 6100 m²
    C) 4100 m²   D) 9200 m²

66) The perimeter of a rectangular room is   62 ft. The width is   15 ft. Find   66) _____
    the length.
    A) 17 ft   B) 15 ft   C) 47 ft   D) 16 ft

67) A small farm field is a square measuring   340 ft on a side. What is the   67) _____
    perimeter of the field? If you double the length of each side of the field,
    what is the new perimeter?

A) 680 ft, 2720 ft   B) 340 ft, 1360 ft
C) 680 ft, 1360 ft   D) 1360 ft, 2720 ft

68) A one-story building is 248 ft by 236 ft. If a square patio with sides   68) _____
25 ft occupies the center of the building, how much area remains for
offices?
    A) 950 ft^2 B) 870 ft^2 C) 58,000 ft^2 D) 970 ft^2

69) A field is in the shape of a parallelogram with sides of length 259.2 ft   69) _____
and 25.10 ft. The altitude to the longer side is 18.54 ft. Find the
length of fencing which must be purchased to enclose the entire field.
    A) 555.5 ft   B) 4806 ft   C) 568.6 ft   D) 568.60 ft

70) A bike trail is in the shape of a trapezoid. Find the distance around the   70) _____
trail.

15.0 km

3.49 km   5.60 km
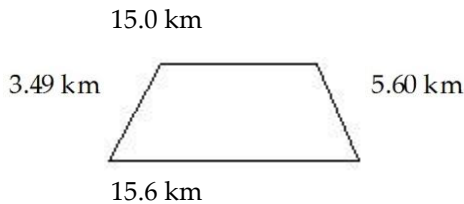
15.6 km
    A) 39.7 km   B) 19.5 km   C) 39.69 km   D) 87.36 km

71) A newly built house has a room in it such that the length is 2.8 ft more   71) _____
than the width. The perimeter is 42.8 ft. What are the dimensions?
    A) 10.3 ft by 13.1 ft   B) 9.3 ft by 12.1 ft
    C) 21.4 ft by 24.2 ft   D) 20 ft by 23 ft

72) A home has a living room that is 14 ft wide and 22 ft long. The height   72) _____
is 9 ft. Bob needs to paint the room. He has to paint the walls and the
ceiling. (He will not paint the floor.) There are two 3.0 ft by 5.0 ft
windows and a 4.0 ft by 7.0 ft opening into the room that will not be
painted. A gallon of paint covers 320 ^{ft2}. How many gallons of paint are
needed? (All data are accurate to two significant figures.)
    A) 3.8 gallons   B) 2.8 gallons
    C) 1.8 gallons   D) 3.0 gallons

Find the circumference of the circle with the given radius or diameter.
73) r = 3.98 cm   73) _____
    A) 25.01 cm   B) 49.8 cm   C) 12.5 cm   D) 25.0 cm

74) r = 0.557 in.   74) _____
    A) 3.50 in.   B) 3.500 in.   C) 0.975 in.   D) 1.75 in.

75) r = 5.7 in.   75) _____
    A) 35.81 in.   B) 102.1 in.   C) 36 in.   D) 17.9 in.

76) r = 44.4 cm   76) _____
    A) 279 cm   B) 6193 cm   C) 139 cm   D) 279.0 cm

77) d = 5.28 cm   77) _____
   A) 16.6 cm   B) 33.18 cm   C) 16.59 cm   D) 33.2 cm

78) d = 5.9 in.   78) _____
   A) 37 in.   B) 19 in.   C) 18.5 in.   D) 37.1 in.

79) d = 69.3 mm   79) _____
   A) 217.7 mm   B) 218 mm
   C) 435 mm   D) 435.4 mm

80) d = 26.9 ft   80) _____
   A) 169 ft   B) 84.51 ft   C) 169.0 ft   D) 84.5 ft

Find the area of the circle.

81) A circle with diameter 21 yd   81) _____
   A) 1400   B) 66 yd^2 C) 350 yd^2 D) 130 yd^2
      yd^2

82) A circle with diameter 12.6 mi   82) _____
   A) 499 mi^2 B) 39.6   C) 79.2   D) 125 mi^2
                           mi^2 mi^2

83) A circle with radius 8.4 cm   83) _____
   A) 890 cm^2 B) 220 cm^2 C) 53 cm^2 D) 110 cm^2

84) A circle with radius 7.18 mi   84) _____
   A) 90.2   B) 45.1   C) 648 mi^2 D) 162 mi^2
      mi^2 mi^2

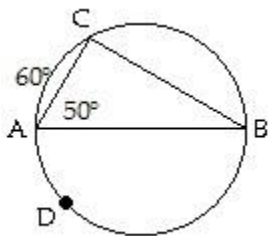**Determine the indicated arc or angle.**

85) Find $\overset{\frown}{BC}$.   85) _____
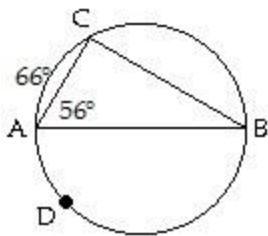
   A) 112°   B) 114°   C) 28°   D) 56°

86) Find $\overset{\frown}{ADB}$.   86) _____

   A) 275°   B) 180°   C) 250°   D) 200°

87) Find ∠ABC.

87)
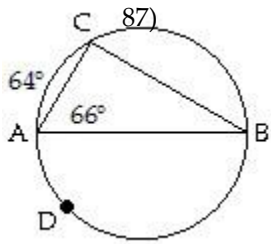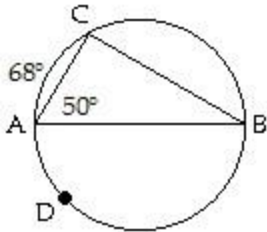

A) 24°   B) 32°   C) 64°   D) 66°

88) Find ∠ACB.   88) _____
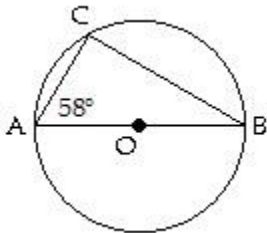

A) 62°   B) 96°   C) 90°   D) 87°

89) Find $\overset{\frown}{AC}$.   89) _____

A) 116°   B) Not enough information.
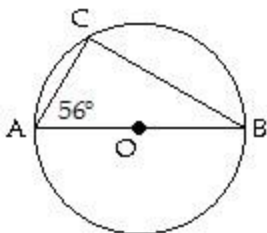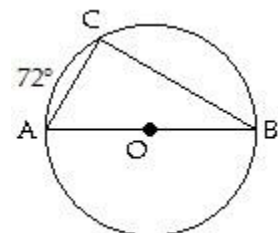C) 64°   D) 122°

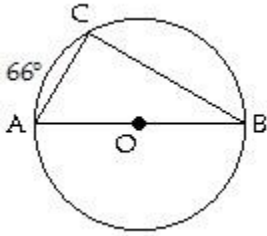90) Find ∠ACB.   90) _____

A) 90°   B) 124°
C) Not enough information. D) 68°

91) Find ∠CAB.

91) _____

    A) Not enough information.   B) 18°
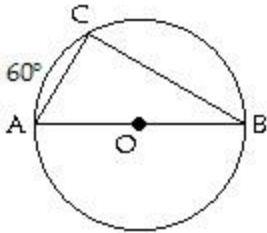   C) 36°   D) 54°

92) Find $\overset{\frown}{BC}$.   92) _____

    A) 66°   B) 123°
    C) 114°   D) Not enough information.

93) Find $\overset{\frown}{ACB}$.   93) _____

    A) 240°   B) Not enough information.
    C) 150°   D) 180°

94) Find ∠ACB.   94) _____
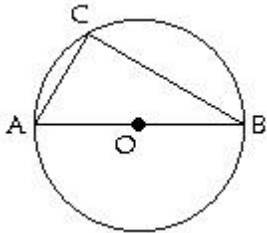
    A) Not enough information.   B) 90°

Convert to radian measure. Round to two decimal places.

    95) -261.6°   95) _____
        A) -4.58   B) -4.56   C) -4.59   D) -4.57

    96) 71.7°   96) _____
        A) 1.23   B) 1.26   C) 1.25   D) 1.22

    97) 169.1°   97) _____
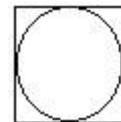   A) 2.83   B) 2.96   C) 2.95   D) 2.84

Solve the problem.
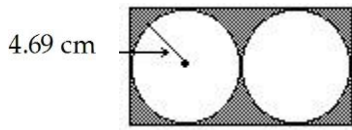
    98) A small circular pool is enclosed in a square.   Find the area inside the
        square but outside the circle.
                2.0 m

98)
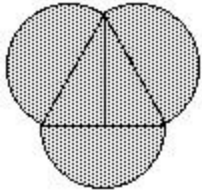_____

A) 0.86 m^2 B) 3.1 m^2 C) 4.9 m^2 D) 13 m^2

99) Find the shaded area in the figure.   99) _____

4.69 cm

A) 107 cm^2 B) 18.9 cm^2

C) 37.8 cm^2 D) Not enough information.

100) Semicircles are placed on the sides of an equilateral triangle with sides   100) _____
5.1 ft as shown.   Find the shaded area.

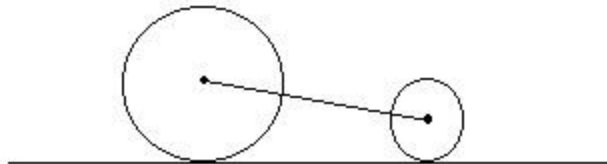A) 41.9 ft^2 B) 37.1 ft^2 C) 21.5 ft^2 D) 72.5 ft^2

101) A bicycle tire has a radius of   10.4 in.   How far will it travel in   128   101) _____
revolutions?
   A) 87,000 in.   B) 8360 in.   C) 43,500 in.   D) 4180 in.

102) Two wheels of radius   15.98 cm and   13.67 cm respectively rest on the   102) _____
ground.   If the centers of the wheels are   33.73 cm apart, how far apart
are the points where they touch the ground?

   A) 29.70 cm   B) 30.84 cm   C) 33.73 cm   D) 33.65 cm

103) The circumference of a tree is found to be   112 in.   What is its radius?   103) _____
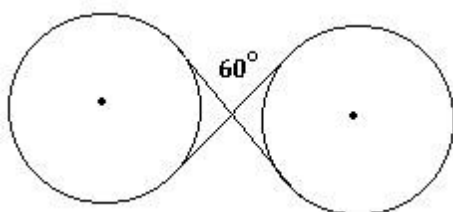   A) 17.8 in.   B) 18.9 in.   C) 19.0 in.   D) 35.7 in.

104) What is the area of the largest circle that can be cut from a rectangular   104) _____
plate that is 21.5 cm by 17.1 cm?
   A) 363 cm^2 B) 230 cm^2 C) 1160 cm^2 D) 919 cm^2

105) Find the length of the pulley belt shown in the figure if the belt crosses   105) _____
at 60° angles.   The radius of each circle is   7.37 in.
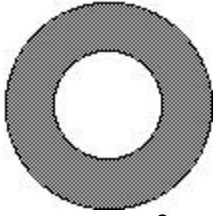

   A) 81.9 in.   B) 64.2 in.

C) 113 in.   D) Not enough information.

106) A washer has an inner radius of 0.13 in. and an outer radius of 0.45   106) _____
in. Find the area of the washer.

A) 0.64 in.^{2} B) 0.58 in.^{2} C) 0.69 in.^{2} D) 0.11 in.^{2}

Use the trapezoidal rule to find the area.

107) On an aerial photograph a region the widths of an area were measured   107) _____
at $0.40-mi$ intervals as shown in the following table.   Find the area.

Distance (mi)	0.00	0.40	0.80	1.20	1.60	2.00	2.40	2.80	3.20
Width (mi)		3.6	1.7	3.1	1.6	2.0	2.5	4.8	3.1	2.7

A) 10 mi^2 B) 13 mi^2 C) 8.8 mi^2 D) 8.5 mi^2

108) The widths of a small pond were measured at 1.5-m intervals as shown   108) _____
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) 71 m^2 B) 86 m^2 C) 160 m^2 D) 78 m^2

109) A meadow was measured at $5.90-yd$ intervals as shown in the   109) _____
following table.   Find the area.

| Distance (yd)	0.00	5.90	11.80	17.70	23.60	29.50	35.40	41.30	47.20
Width (yd)		16.4	10.6	14.0	15.2	10.2	16.8	12.1	16.8	13.9

A) 654 yd^2 B) 743 yd^2 C) 579 yd^2 D) 670 yd^2

110) A parking lot was measured every 100 m (three significant digits). The   110) _____
measurements (in meters) are given in the diagram.   Find the area.

473 m | 475 m | 475 m | 341 m | 263 m | 281 m | 367 m

A) $226{,}000$ m^2 B) $670{,}000$ m^2
C) $268{,}000$ m^2 D) $599{,}000$ m^2

111) A pool was measured every 2.25 yd.   The distances across the pool (in
yards) are given in the diagram.   Find the area.

111)

3.94 | 3.85 | 3.27 | 3.71 | 3.42 | 3.37 | 3.97 | 3.55 | 0.00
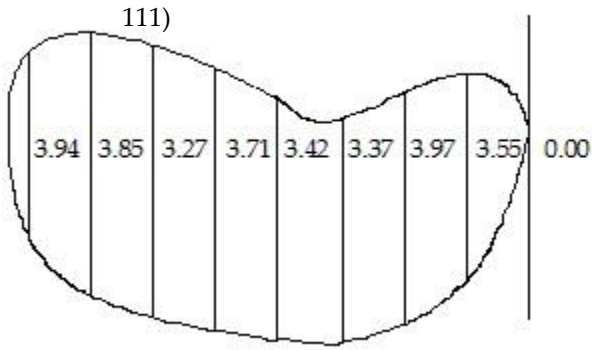
A) 57.0 yd²   B) 61.0 yd²   C) 85.0 yd²   D) 93.6 yd²

112) A pond was measured every 290 m. The distances across the pond (in meters) are given in the diagram. Find the area.   112) _____

637 | 851 | 639 | 811 | 846 | 727 | 946 | 795 | 0
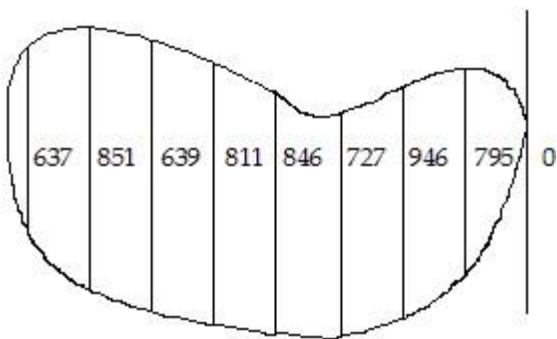
A) 1,700,000 m²   B) 2,600,000 m²

C) 1,600,000 m²   D) 2,400,000 m²

Use Simpson's Rule to find the area.

113) On an aerial photograph a region the widths of an area were measured at 0.70-mi intervals as shown in the following table. Find the area.   113) _____

Distance (mi)	0.00	0.70	1.40	2.10	2.80	3.50	4.20	4.90	5.60
Width (mi)		1.2	2.5	3.7	2.7	4.8	3.9	4.4	1.6	2.7

A) 23 mi²   B) 17 mi²   C) 20 mi²   D) 19 mi²

114) The widths of a small pond were measured at 1.5-m intervals as shown in the following table. Find the area.   114) _____

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) 35 m²   B) 41 m²   C) 38 m²   D) 66 m²

115) A meadow was measured at 5.90-yd intervals as shown in the following table. Find the area.   115) _____

Distance (yd)	0.00	5.90	11.80	17.70	23.60	29.50	35.40	41.30	47.20
Width (yd)		13.4	14.3	10.4	11.1	15.1	15.7	10.1	13.6	13.9

A) 549 yd²   B) 624 yd²   C) 694 yd²   D) 613 yd²

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

116)
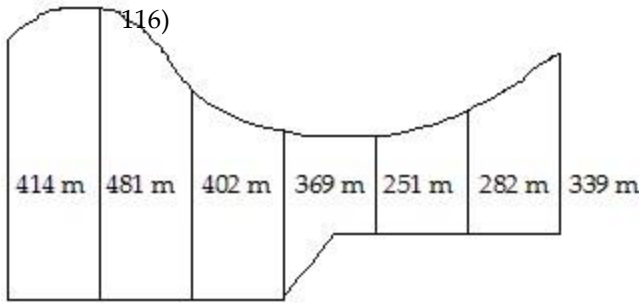
A) 254,000 m²   B) 188,000 m²

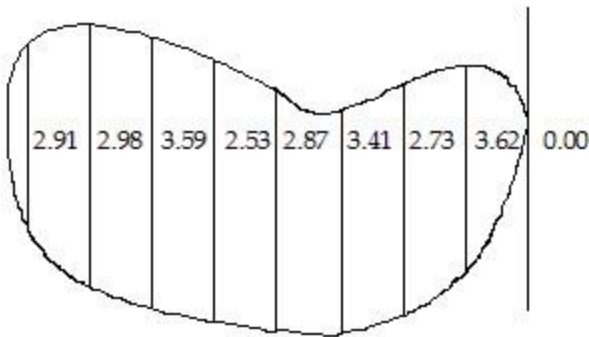C) 220,000 m²   D) 329,000 m²

414 m   481 m   402 m   369 m   251 m   282 m   339 m

117) A pool was measured every 2.50 yd. The distances across the pool (in 117) _____
yards) are given in the diagram. Find the area.

2.91 2.98 3.59 2.53 2.87 3.41 2.73 3.62 0.00

A) 58.0 yd²   B) 53.4 yd²   C) 54.0 yd²   D) 59.5 yd²

118) A pond was measured every 270 m. The distances across the pond (in 118) _____
meters) are given in the diagram. Find the area.

852 947 688 823 758 833 639 777 0

A) 1,500,000 m²   B) 1,600,000 m²

C) 1,400,000 m²   D) 1,700,000 m²

Find the volume.

119) A cube measuring 29 in. on each edge   119) _____

A) 87 in.³   B) 24,000 in.³

C) 1700 in.³   D) 840 in.³

120) A box 8.1 in. x 8.9 in. x 9.0 in.   120) _____

A) 650 in.³   B) 640 in.³   C) 590 in.³   D) 720 in.³

121)

Radius = 4.5 cm, height = 18 cm

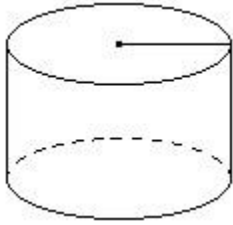A) 1100 cm^3 B) 250 cm^3
C) 4600 cm^3 D) 510 cm^3

121) _____

122) A sphere with diameter 9.4 yd

A) 3500 yd^3 B) 92 yd^3 C) 240 yd^3 D) 430 yd^3

122) _____

123) A cone with height 8 in. and radius 7 in.

A) 100 in.^{3} B) 600 in.^{3} C) 400 in.^{3} D) 800 in.^{3}

123) _____

124) A cone with height 7 in. and radius 6 in.

A) 400 in.^{3} B) 90 in.^{3} C) 500 in.^{3} D) 300 in.^{3}

124) _____

125) A cone with height 6.1 cm and diameter 6.5 cm

A) 400 cm^3 B) 270 cm^3 C) 83 cm^3 D) 67 cm^3

125) _____

126) A triangular pyramid with base area 15.6 ft^2 and height 7.0 ft

A) 36 ft^3 B) 34 ft^3 C) 55 ft^3 D) 110 ft^3

126) _____

127) 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

127) _____

Solve the problem.

128) Find the total surface area of a box 11.4 cm by 16.8 cm by 23.6 cm.

A) 1560 cm^2 B) 1710 cm^2 C) 1320 cm^2 D) 855 cm^2

128) _____

129) Find the total surface area of a cube with an edge of 14 ft.

A) 84 ft^2 B) 1200 ft^2 C) 340 ft^2 D) 600 ft^2

129) _____

130) Find the total surface area of a right circular cylinder with r = 5.4 in., h = 7.9 in.

A) 320 in.^{2} B) 460 in.^{2} C) 720 in.^{2} D) 230 in.^{2}

130) _____

131) Find the total surface area of a right circular cylinder with d = 9.6 m, h = 6.8 m.

A) 250 m^2 B) 174.8 m^2 C) 490 m^2 D) 120 m^2

131) _____

132) Find the total surface area of a right circular cone with diameter 17.0 ft and height 13.8 ft.

A) 964 ft^2 B) 660 ft^2 C) 3250 ft^2 D) 2380 ft^2

132) _____

133) Find the total surface area of a regular square pyramid with base edges   133) _____
1.93 cm and lateral edges 9.91 cm.

 A) 41.8 cm^2 B) 42.2 cm^2 C) 42.0 cm^2 D) 38.1 cm^2

134) Find the lateral surface area of a right circular cone with a radius of   134) _____
57.5 cm and a slant height of   92.0 cm.

 A) $27,000$ cm^2 B) $319,000$ cm^2

 C) $16,600$ cm^2 D) 8310 cm^2

135) Find the lateral surface area of a regular pyramid with a perimeter of   135) _____
3.78 ft and a slant height of 2.23 ft.

 A) 4.21 ft^2 B) 7.99 ft^2 C) 8.43 ft^2 D) 2.81 ft^2

136) A cylindrical   drain pipe is   7 inches across the top and about   11   136) _____
inches high. How many cubic inches of   water could it hold?

 A) 2000 in.^{3} B) 500 in.^{3} C) 800 in.^{3} D) 400 in.^{3}

137) The foundation for a cylindrical   flower bed is a cylinder   15   yd in   137) _____
diameter and   5.0   yd high. How many cubic   yd of concrete are
needed to build the foundation?

 A) 470   yd^3 B) 880   yd^3 C) 1800   D) 3500
                                                        yd^3 yd^3

138) A certain marine engine has cylinders that are   4.11   inches in diameter   138) _____
and   4.89   inches deep. Find the total volume of   8 cylinders.

 A) 64.9   inches^3 B) 1040   inches^3

 C) 519   inches^3 D) 1010   inches^3

139) A shipping container has dimensions of   3.1   m x   2.3   m x   5.9   m.   139) _____
What is its volume?

 A) 80   m^3 B) 57   m^3 C) 42   m^3 D) 16   m^3

140) A model of a pyramid has a square base   530 cm on a side and a height   140) _____
of 220 cm. Find the volume.

 A) $21,000,000$ cm^3 B) $62,000,000$ cm^3

 C) $20,600,000$ cm^3 D) $16,000,000$ cm^3

141) A dog toy is constructed in the shape of a cylinder with a   length of   141) _____
6.3 in. The cylinder has a hemishpere at each end. The diameter is   2.6
in. Find the total volume.

 A) 43 in.^{3} B) 33 in.^{3} C) 38 in.^{3} D) 210 in.^{3}

1) D
2) A
3) C
4) B
5) B
6) A
7) D
8) D
9) A
10) B
11) C
12) C
13) D
14) A
15) A
16) A
17) A
18) B
19) C
20) C
21) C
22) C
23) C
24) B
25) C
26) D
27) C
28) D
29) A
30) C
31) D
32) D
33) A
34) A
35) D
36) C
37) C
38) B
39) C
40) A
41) A
42) C
43) D
44) C
45) B
46) A
47) D
48) B
49) B
50) C
51) C

52) A
53) C
54) D
55) A
56) B
57) A
58) D
59) B
60) A
61) D
62) C
63) B
64) B
65) B
66) D
67) D
68) C
69) C
70) A
71) B
72) B
73) D
74) A
75) C
76) A
77) A
78) B
79) B
80) D
81) C
82) D
83) B
84) D
85) A
86) D
87) B
88) B
89) C
90) A
91) D
92) C
93) D
94) B
95) D
96) C
97) C
98) A
99) C
100) A
101) B
102) D
103) A

104) B
105) C
106) B
107) C
108) D
109) A
110) A
111) B
112) A
113) B
114) A
115) B
116) C
117) D
118) D
119) B
120) A
121) A
122) D
123) C
124) D
125) D
126) A
127) C
128) B
129) B
130) B
131) D
132) B
133) A
134) C
135) A
136) D
137) B
138) C
139) C
140) A
141) A