

TEST BANK



Basic Technical
Mathematics

Ninth Edition

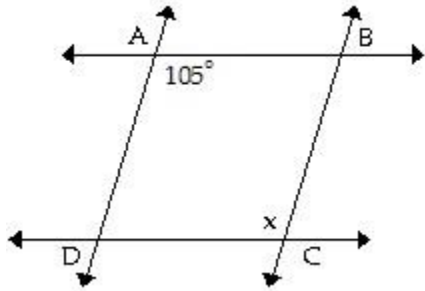


Allyn J. Washington

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

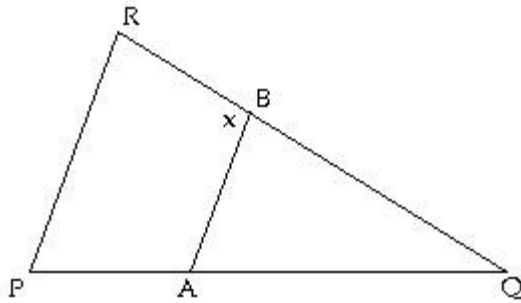
Solve the problem.

- 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) 105° D) -95°

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



- A) 47° B) 93° C) 87° D) 46°

- 3) Find the supplement of 12° . 3) _____

- A) 258° B) 168° C) 78° D) 348°

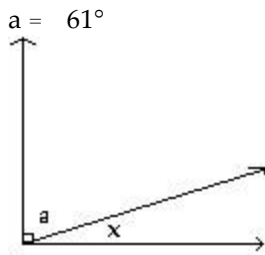
- 4) Find the supplement of 118° . 4) _____

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

- 5) Find the complement of 79° . 5) _____

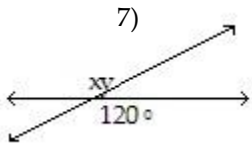
- A) 281° B) 11° C) 191° D) 101°

- 6) Find the measure of angle x. 6) _____



- A) 39° B) 24° C) 19° D) 29°

- 7) Find the measure of angle x.



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- A) 120° B) 60° C) 130° D) 30°

8) Give the measure of the acute angle: $45^\circ, 90^\circ, 116^\circ, 180^\circ$.

8) _____

- A) 90° B) 180° C) 45° D) 116°

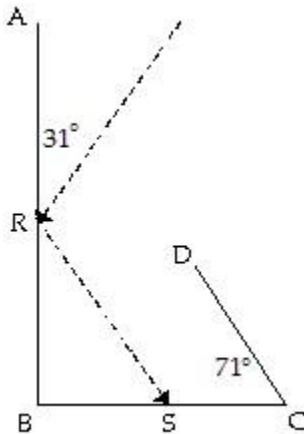
9) Give the measure of the obtuse angle: $64^\circ, 90^\circ, 141^\circ, 180^\circ$.

9) _____

- A) 141° B) 180° C) 64° D) 90°

10)

10) _____

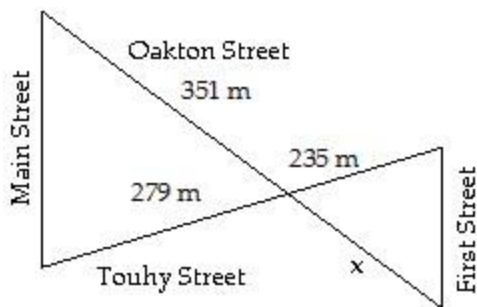


When a beam of light is reflected from a smooth surface, the angle formed by the incoming beam with the surface is equal to the angle formed by the reflected beam and the surface. The beam of light in the figure makes an angle of 31° with \overline{RA} . Complete the path of the light beam as it reflects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

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

11) _____

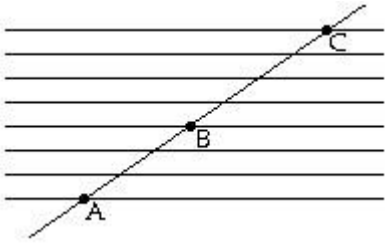


- A) 187 m B) 296 m C) 417 m D) 235 m

12) An electric circuit board has equally spaced parallel wires with connections at points A, B, and C, as shown in the figure. If

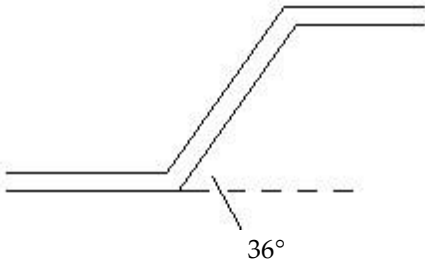
$AB = 342$ cm,
length
wh

of \overline{BC} ? 12)



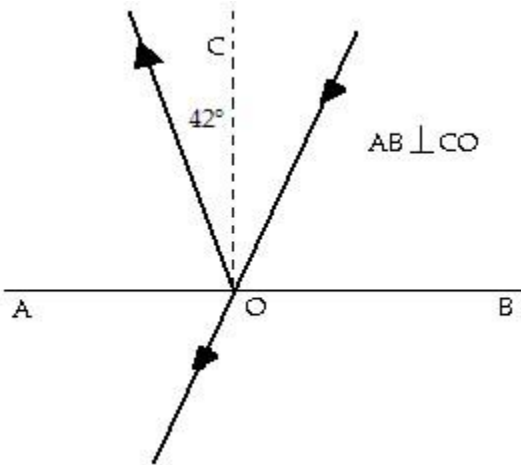
- A) 1.95 cm B) 4.56 cm C) 3.42 cm D) 4.28 cm

13) 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?



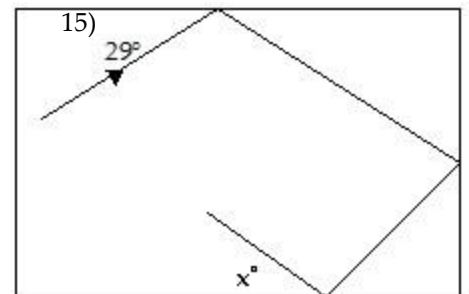
- A) 126° B) 54° C) 36° D) 144°

14) 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) 87° B) 42° C) 132° D) 48°

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



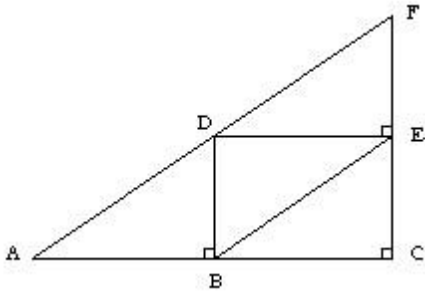
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13) _____

14) _____

- A) 74° B) 61° C) 24° D) 29°

16) Trusses are often used in the construction of buildings. If $\angle DAB = 42^\circ$ what is the measure of $\angle BDF$ in the truss shown below. 16) _____



- A) 48° B) 132° C) 42° D) 90°

17) Two angles of a triangle are 20° and 80° . Find the third angle. 17) _____

- A) 10° B) 100° C) 260° D) 80°

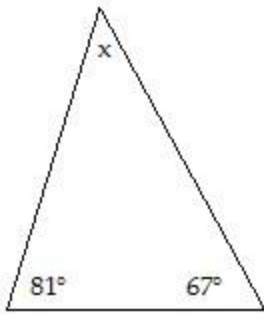
18) Two angles of a triangle are 37° and 97° . Find the third angle. 18) _____

- A) 46° B) 44° C) 226° D) 134°

19) One of the base angles of an isosceles triangle is 46° . Find the measures of the other two angles. 19) _____

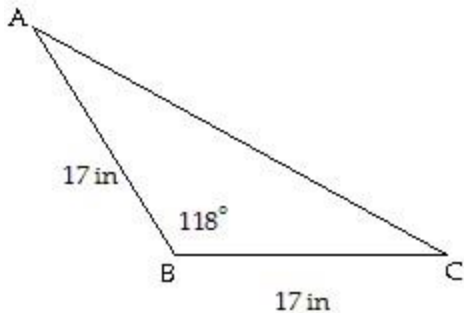
- A) $46^\circ, 2^\circ$ B) $46^\circ, 268^\circ$ C) $46^\circ, 92^\circ$ D) $46^\circ, 88^\circ$

20) Find x. 20) _____



- A) 74° B) 32° C) 67° D) 81°

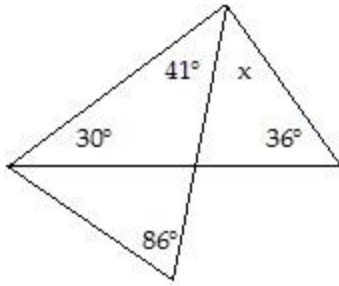
21) Find $\angle A$. 21) _____



- A) 121° B) 31° C) 62° D) 26°

22) Determine the value of x .

22) _____

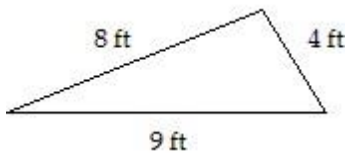


- A) 56° B) 80° C) 73° D) 114°

Find the perimeter.

23)

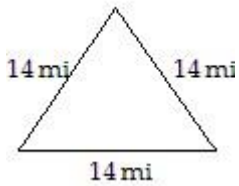
23) _____



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

24)

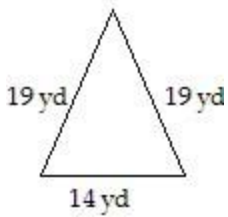
24) _____



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

25)

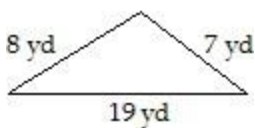
25) _____



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

26)

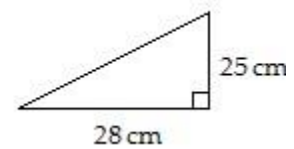
26) _____



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

Find the area.

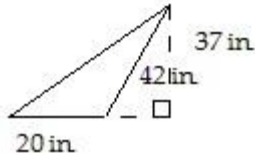
27)



27)

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

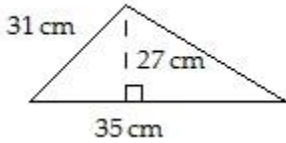
28)



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

28) _____

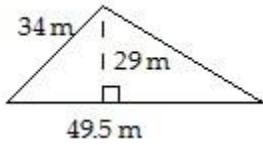
29)



- A) 420 cm² B) 950 cm² C) 360 cm² D) 470 cm²

29) _____

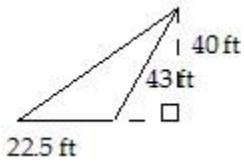
30)



- A) 420 m² B) 1400 m² C) 720 m² D) 490 m²

30) _____

31)



- A) 860 ft² B) 900 ft² C) 450 ft² D) 800 ft²

31) _____

32)

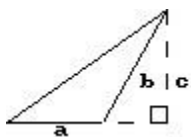


$a = 50 \text{ mi. } b = 45 \text{ mi}$

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

32) _____

33)

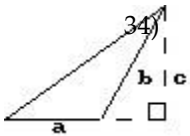


$a = 20 \text{ yd, } b = 33 \text{ yd, } c = 27 \text{ yd}$

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

33) _____

34)



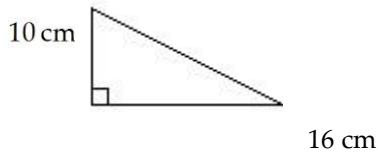
a = 21.5
cm, b =
49 cm, c
= 44
cm

- A) 970 cm²
C) 470 cm²

- B) 1100 cm²
D) 950 cm²

Find the missing length in the right triangle.

35)



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

35) _____

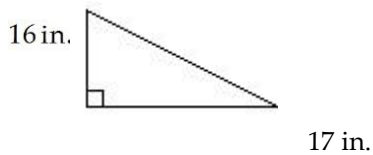
36)



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

36) _____

37)



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

37) _____

38)



- A) 24 mi B) 6.0 mi C) 48 mi D) 6.9 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) 111 cm C) 71 cm D) 70.8 cm

39) _____

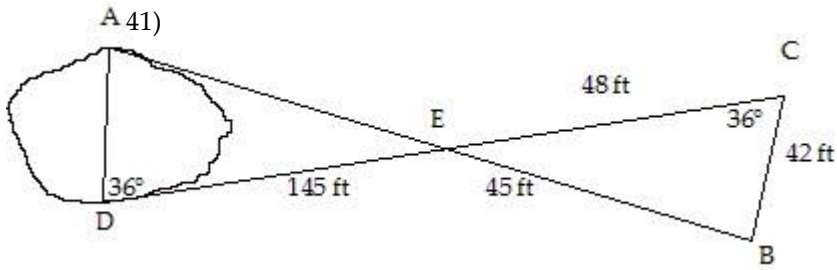
40) The hypotenuse of a right triangle is 57.8 in. and one leg is 29.1 in. Find the length of the other leg.

- A) 65 in. B) 64.7 in. C) 49.9 in. D) 50 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) 140 ft B) 170 ft C) 160 ft D) 130 ft

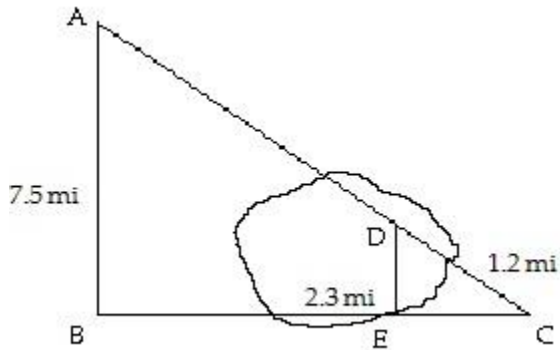
42) A church steeple casts a shadow 113 ft long, and at the same time a 9.00-ft post cast a shadow 5.00 ft long. How high is the steeple? 42) _____

- A) 203 ft B) 133 ft C) 63 ft D) 200 ft

43) A line from the top of a cliff to the ground passes just over the top of a 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? 43) _____

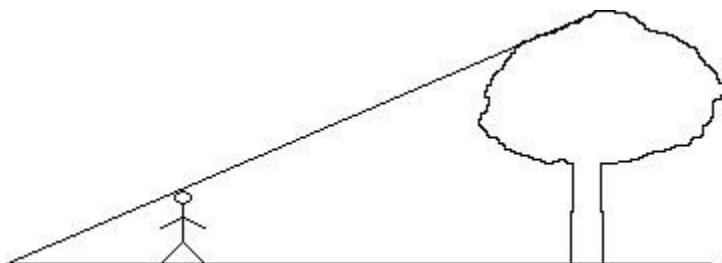
- A) 166 ft B) 200 ft C) 0.50 ft D) 0.00 ft

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



- A) 2.7 mi B) 3.9 mi C) 14.4 mi D) 4 mi

45) Julia, who is 1.58 m tall, wishes to find the height of a tree. She walks 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. 45) _____



- A) 5.57 m B) 0.626 m C) 2.62 m D) 3.99 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 m 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. 46) _____
- A) 109 m B) 297 m C) 2.97 m D) 1.09 m

- 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? 47) _____
- A) 1050 cm² B) 989 cm² C) 1070 cm² D) 177 cm²

- 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? 48) _____
- A) 31 ft B) 25 ft C) 39 ft D) 23 ft

Solve the problem.

- 49) Find the perimeter of a square with a side of 1.24 cm. 49) _____
- A) 1.54 cm B) 2.48 cm C) 4.96 cm D) 5.0 cm

- 50) Find the perimeter of a rhombus with a side of 1.49 mm. 50) _____
- A) 6.0 mm B) 2.22 mm C) 2.98 mm D) 5.96 mm

- 51) Find the perimeter of a square with a side of 23.2 in. 51) _____
- A) 538.2 in. B) 92.80 in. C) 93 in. D) 92.8 in.

- 52) Find the perimeter of a rhombus with a side of 23.4 ft. 52) _____
- A) 547.6 ft B) 93.6 ft C) 98 ft D) 46.8 ft

- 53) Find the perimeter of a rectangle with length of 78.64 cm and width of 56.29 cm. 53) _____
- A) 269.86 cm B) 269.9 cm
C) 4426.6 cm D) 4427 cm

- 54) Find the perimeter of a rectangle with length of 125.68 in. and width of 166.48 in. 54) _____
- A) 584.32 in. B) 20,923.2 in.
C) 584.3 in. D) 20,923 in.

- 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. 55) _____
- A) 216.3 cm B) 177.6 cm C) 178.0 cm D) 178.5 cm

- 56) Find the perimeter of a parallelogram with bases of 76.0 in. and 37.1 in. and height of 23.0 in. 56) _____
- A) 212.1 in. B) 249.2 in. C) 226.2 in. D) 198 in.

- 57) Find the area of a square with side of 6.3 cm. 57) _____
- A) 25 B) .2 cm²

20 cm^2

- C) 39
.7
 cm^2
- D) 40
 cm^2

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

59) Find the area of a rectangle with length 8.5 mm and width 4.0 mm. 59) _____
A) 34 mm^2 B) 25 mm^2
C) 34.0 mm^2 D) 25.0 mm^2

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

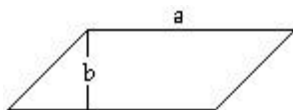
61) Find the area of a parallelogram with a base of 36 m and a height of 18 m. 61) _____
A) 1300 m^2 B) 650 m^2 C) 648 m^2 D) 320 m^2

62) Find the area of a parallelogram with a base of 53 m and a height of 29 m. 62) _____
A) 2800 m^2 B) 1500 m^2 C) 1537 m^2 D) 840 m^2

63) Find the area of a parallelogram with a base of 61 yd and a height of 59 yd. 63) _____
A) 3599 yd^2 B) 3600 yd^2 C) 3500 yd^2 D) 3700 yd^2

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

65) Find the area. 65) _____



$a = 64 \text{ m}$ $b = 96 \text{ m}$

- A) 4100 m^2 B) 6100 m^2
C) 9200 m^2 D) 488,000 m^2

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

67) A small farm field is a square measuring 340 ft 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? 67) _____

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

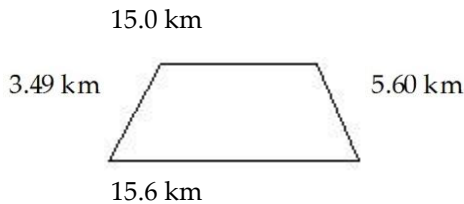
68) A one-story building is 248 ft by 236 ft. If a square patio with sides 25 ft occupies the center of the building, how much area remains for offices? 68) _____

- A) 58,000 ft² B) 870 ft² C) 950 ft² D) 970 ft²

69) A field is in the shape of a parallelogram with sides of length 259.2 ft 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. 69) _____

- A) 4806 ft B) 568.60 ft C) 555.5 ft D) 568.6 ft

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



- A) 39.69 km B) 39.7 km C) 87.36 km D) 19.5 km

71) A newly built house has a room in it such that the length is 2.8 ft more than the width. The perimeter is 42.8 ft. What are the dimensions? 71) _____

- A) 21.4 ft by 24.2 ft B) 10.3 ft by 13.1 ft
 C) 9.3 ft by 12.1 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 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.) 72) _____

- A) 3.8 gallons B) 1.8 gallons
 C) 2.8 gallons D) 3.0 gallons

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

73) $r = 3.98$ cm 73) _____
 A) 25.0 cm B) 12.5 cm C) 25.01 cm D) 49.8 cm

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

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

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

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

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

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

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

Find the area of the circle.

81) A circle with diameter 21 yd 81) _____
 A) 130 yd² B) 1400 yd² C) 350 yd² D) 66 yd²

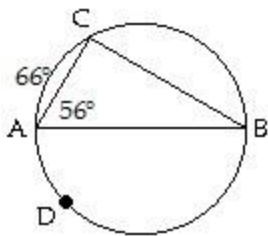
82) A circle with diameter 12.6 mi 82) _____
 A) 39.6 mi² B) 125 mi² C) 499 mi² D) 79.2 mi²

83) A circle with radius 8.4 cm 83) _____
 A) 53 cm² B) 220 cm² C) 110 cm² D) 890 cm²

84) A circle with radius 7.18 mi 84) _____
 A) 162 mi² B) 90.2 mi² C) 45.1 mi² D) 648 mi²

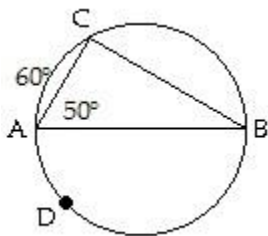
Determine the indicated arc or angle.

85) Find \widehat{BC} . 85) _____



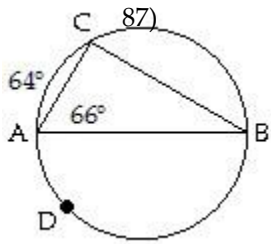
A) 56° B) 112° C) 28° D) 114°

86) Find \widehat{ADB} . 86) _____



A) 180° B) 275° C) 250° D) 200°

87) Find $\angle ABC$.

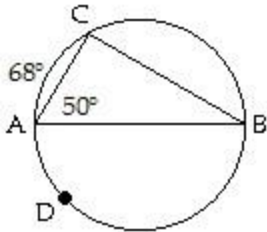


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- A) 66° B) 64° C) 24° D) 32°

88) Find $\angle ACB$.

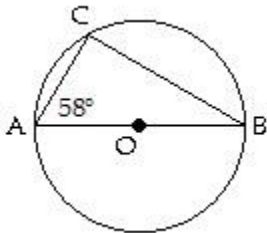
88) _____



- A) 96° B) 87° C) 62° D) 90°

89) Find \widehat{AC} .

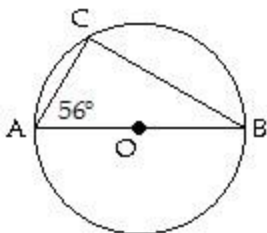
89) _____



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

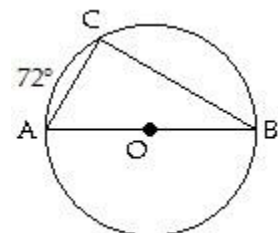
90) Find $\angle ACB$.

90) _____



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

91) Find $\angle CAB$.

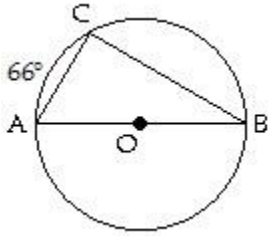


91) _____

- A) 54°
- C) Not enough information.

- B) 18°
- D) 36°

92) Find \widehat{BC} .

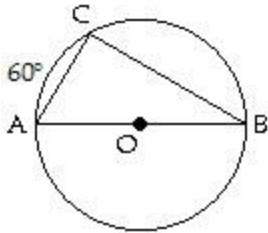


- A) 66°
- C) Not enough information.

- B) 114°
- D) 123°

92) _____

93) Find \widehat{ACB} .

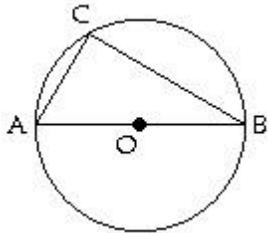


- A) 180°
- C) 150°

- B) Not enough information.
- D) 240°

93) _____

94) Find $\angle ACB$.



- A) Not enough information.

- B) 90°

94) _____

Convert to radian measure. Round to two decimal places.

95) -261.6°

- A) -4.56
- B) -4.58
- C) -4.57
- D) -4.59

95) _____

96) 71.7°

- A) 1.23
- B) 1.25
- C) 1.22
- D) 1.26

96) _____

97) 169.1°

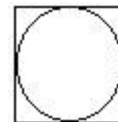
- A) 2.84
- B) 2.96
- C) 2.83
- D) 2.95

97) _____

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

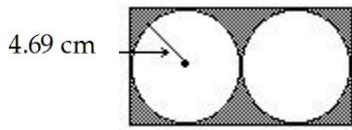


98)

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

99) Find the shaded area in the figure.

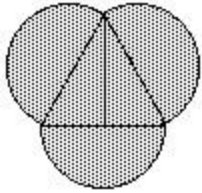
99) _____



- A) 107 cm^2 B) 37.8 cm^2
 C) 18.9 cm^2 D) Not enough information.

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

100) _____



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

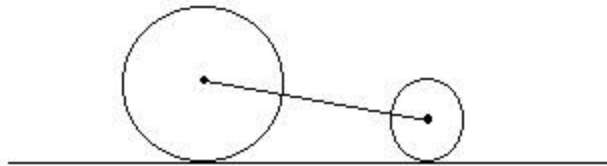
101) A bicycle tire has a radius of 10.4 in. How far will it travel in 128 revolutions?

101) _____

- A) 4180 in. B) 8360 in. C) $43,500 \text{ in.}$ D) $87,000 \text{ in.}$

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

102) _____



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

103) The circumference of a tree is found to be 112 in. What is its radius?

103) _____

- A) 18.9 in. B) 35.7 in. C) 17.8 in. D) 19.0 in.

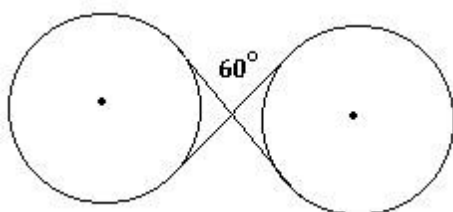
104) What is the area of the largest circle that can be cut from a rectangular plate that is 21.5 cm by 17.1 cm ?

104) _____

- A) 230 cm^2 B) 919 cm^2 C) 1160 cm^2 D) 363 cm^2

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

105) _____

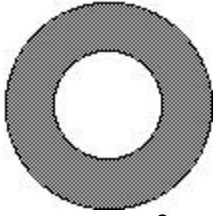


- A) 64.2 in. B) 113 in.

C) 81.9 in.

D) Not enough information.

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



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

Use the trapezoidal rule to find the area.

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

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

- 108) The widths of a small pond were measured at 1.5-m intervals as shown in the following table. Find the area. 108) _____

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

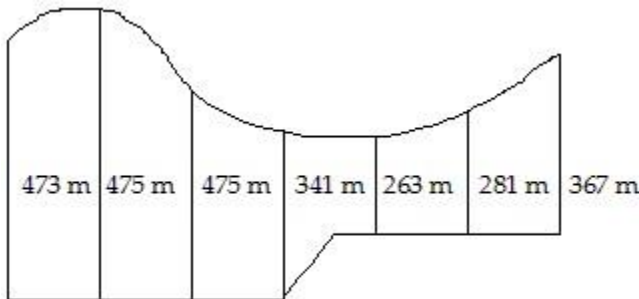
- A) 71 m^2 B) 78 m^2 C) 86 m^2 D) 160 m^2

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

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

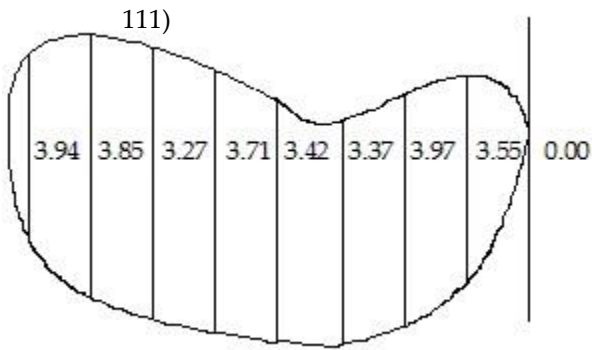
- A) 743 yd^2 B) 579 yd^2 C) 670 yd^2 D) 654 yd^2

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



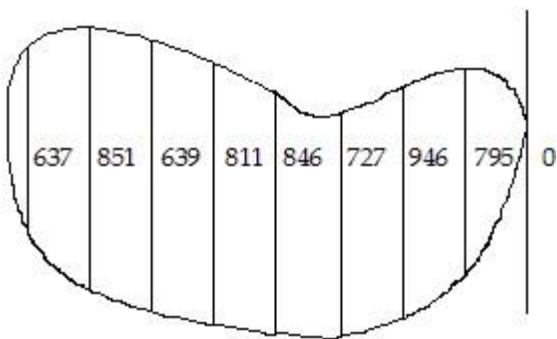
- A) $226,000 \text{ m}^2$ B) $268,000 \text{ m}^2$
 C) $670,000 \text{ m}^2$ D) $599,000 \text{ m}^2$

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



- A) 85.0 yd^2 B) 57.0 yd^2 C) 93.6 yd^2 D) 61.0 yd^2

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



- A) $1,700,000 \text{ m}^2$ B) $2,400,000 \text{ m}^2$
 C) $1,600,000 \text{ m}^2$ D) $2,600,000 \text{ m}^2$

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 mi^2 B) 19 mi^2 C) 17 mi^2 D) 20 mi^2

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

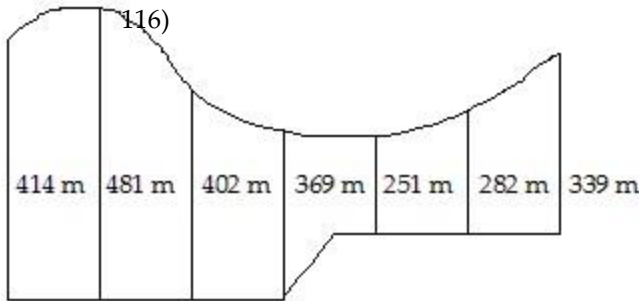
- A) 38 m^2 B) 66 m^2 C) 35 m^2 D) 41 m^2

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

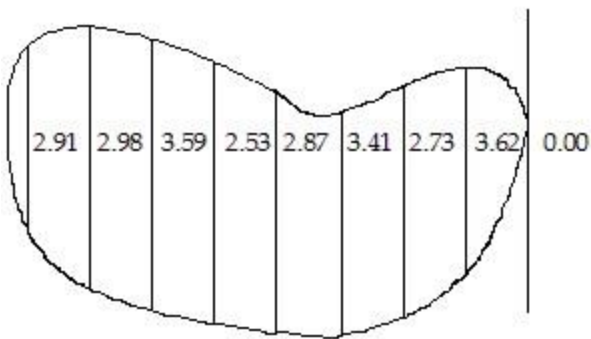
- A) 549 yd^2 B) 624 yd^2 C) 694 yd^2 D) 613 yd^2

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



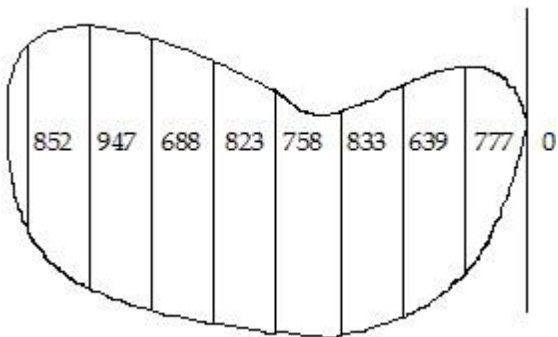
- A) 220,000 m² B) 329,000 m²
 C) 254,000 m² D) 188,000 m²

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



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

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



- A) 1,600,000 m² B) 1,400,000 m²
 C) 1,700,000 m² D) 1,500,000 m²

Find the volume.

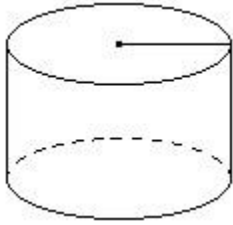
119) A cube measuring 29 in. on each edge 119) _____

- A) 87 in.³ B) 1700 in.³
 C) 840 in.³ D) 24,000 in.³

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

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

121)



Radius = 4.5 cm, height = 18 cm

A) 510 cm^3

B) 250 cm^3

C) 4600 cm^3

D) 1100 cm^3

121) _____

122) A sphere with diameter 9.4 yd

A) 92 yd^3

B) 240 yd^3

C) 3500

D) 430 yd^3

122) _____

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

A) 800 in.^3

B) 400 in.^3

C) 100 in.^3

D) 600 in.^3

123) _____

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

A) 400 in.^3

B) 300 in.^3

C) 90 in.^3

D) 500 in.^3

124) _____

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

A) 83 cm^3

B) 270 cm^3

C) 67 cm^3

D) 400 cm^3

125) _____

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

A) 36 ft^3

B) 110 ft^3

C) 34 ft^3

D) 55 ft^3

126) _____

127) A rectangular pyramid with base area 18.5 m^2 and height 4.0 m

A) 37 m^3

B) 23 m^3

C) 25 m^3

D) 74 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) 1710 cm^2

B) 855 cm^2

C) 1320 cm^2

D) 1560 cm^2

128) _____

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

A) 1200 ft^2

B) 600 ft^2

C) 84 ft^2

D) 340 ft^2

129) _____

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

A) 460 in.^2

B) 720 in.^2

C) 230 in.^2

D) 320 in.^2

130) _____

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

A) 120 m^2

B) 174.8 m^2

C) 250 m^2

D) 490 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) 2380 ft^2

B) 964 ft^2

C) 3250 ft^2

D) 660 ft^2

132) _____

- 133) Find the total surface area of a regular square pyramid with base edges 1.93 cm and lateral edges 9.91 cm. 133) _____
 A) 41.8 cm^2 B) 42.0 cm^2 C) 42.2 cm^2 D) 38.1 cm^2
- 134) 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. 134) _____
 A) $16,600 \text{ cm}^2$ B) $319,000 \text{ cm}^2$
 C) $27,000 \text{ cm}^2$ D) 8310 cm^2
- 135) Find the lateral surface area of a regular pyramid with a perimeter of 3.78 ft and a slant height of 2.23 ft. 135) _____
 A) 7.99 ft^2 B) 4.21 ft^2 C) 2.81 ft^2 D) 8.43 ft^2
- 136) A cylindrical drain pipe is 7 inches across the top and about 11 inches high. How many cubic inches of water could it hold? 136) _____
 A) 800 in.^3 B) 500 in.^3 C) 400 in.^3 D) 2000 in.^3
- 137) The foundation for a cylindrical flower bed is a cylinder 15 yd in diameter and 5.0 yd high. How many cubic yd of concrete are needed to build the foundation? 137) _____
 A) 3500 yd^3 B) 470 yd^3 C) 1800 yd^3 D) 880 yd^3
- 138) A certain marine engine has cylinders that are 4.11 inches in diameter and 4.89 inches deep. Find the total volume of 8 cylinders. 138) _____
 A) 64.9 inches^3 B) 1040 inches^3
 C) 1010 inches^3 D) 519 inches^3
- 139) A shipping container has dimensions of 3.1 m x 2.3 m x 5.9 m. What is its volume? 139) _____
 A) 42 m^3 B) 57 m^3 C) 80 m^3 D) 16 m^3
- 140) A model of a pyramid has a square base 530 cm on a side and a height of 220 cm. Find the volume. 140) _____
 A) $62,000,000 \text{ cm}^3$ B) $21,000,000 \text{ cm}^3$
 C) $20,600,000 \text{ cm}^3$ D) $16,000,000 \text{ cm}^3$
- 141) A dog toy is constructed in the shape of a cylinder with a length of 6.3 in. The cylinder has a hemishpere at each end. The diameter is 2.6 in. Find the total volume. 141) _____
 A) 38 in.^3 B) 210 in.^3 C) 43 in.^3 D) 33 in.^3

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

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

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