Convert the units.

1) 15 km = ____ m

Answer: 15,000 m

2) 3.27 m = ____ cm

Answer: 327 cm

3) 907 mm = ____ cm

Answer: 90.7 cm

4) 1898 cm = ____ dam

Answer: 1.898

5) 0.0052561 km = ____ mm

Answer: 5256.1

6) 60 in. = ____ ft

Answer: 5

7) 10,560 ft = ____ mi

Answer: 2

8) 21 yd = ____ ft

Answer: 63

9) 7040 yd = ____ mi

Answer: 4

10) 10 yd = ____ in.

Answer: 360

Choose the most reasonable unit of measure.

11) Basketball court length: 24 ____ (mm, cm, m, km)

Answer: m

12) Paperback book height: 19 ____ (mm, cm, m, km)

Answer: cm

13) Hammer length: 33 ____ (mm, cm, m, km)

Answer: cm

14) Vacation drive: 340 ____ (cm, km, mm, m)

Answer: km

Find the perimeter of the figure.

15) A square with side lengths of 5 in.

Answer: 20 in.

16) A rectangle 6 m × 7 m

Answer: 26 m

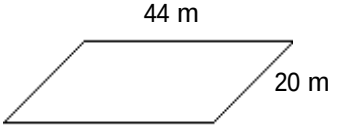
17) A rectangle 2.1 m × 6.2 m

Answer: 16.6 m

18) A rectangle 110 m × 120 m

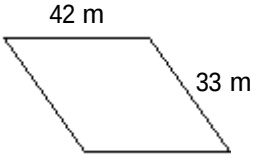
Answer: 460 m

19)



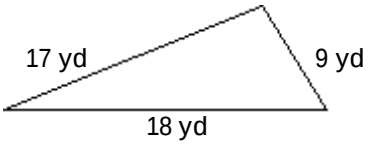
Answer: 128 m

20)



Answer: 150 m

21)



Answer: 44 yd

Find the circumference or arc length. Leave your answer in terms of pi.

22) A circle with diameter 20 mi

Answer: 20π mi

23) A circle with diameter 12.7 ft

Answer: 12.7π ft

24) A circle with radius 3.5 mi

Answer: 7π mi

25) A circle with radius 2.75 mi

Answer: 5.5π mi

26) A semicircle with diameter 12 ft

Answer: 6π ft

27) A semicircle with radius 11.5 ft

Answer: 11.5π ft

28) A semicircle with diameter 8.2 mi

Answer: 4.1π mi

29) An arc with central angle 60 and radius 7 in.

Answer: 2.33π in.

30) An arc with central angle 287 and radius 4 ft

Answer: 6.38π ft

31) An arc with central angle 295 and radius 8 cm

Answer: 13.11π cm

Convert the units.

32) $2736\ \text{in.}^2 = \_\_\_\_\ \text{ft}^2$

Answer: 19

33) $25\ \text{ft}^2 = \_\_\_\_\ \text{yd}^2$

Answer: 2.78

34) $647\ \text{mm}^2 = \_\_\_\_\ \text{cm}^2$

Answer: 6.47

35) $92\ \text{m}^2 = \_\_\_\_\ \text{cm}^2$

Answer: 920,000

Find the area of the figure.

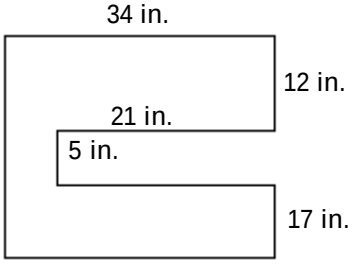
36) A square with side lengths of 17 m

Answer: $289\ \text{m}^2$

37) A rectangle with side lengths of 14 in. and 11 in.

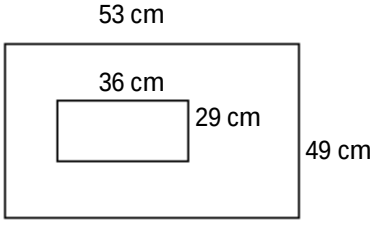
Answer: $154\ \text{in.}^2$

38)



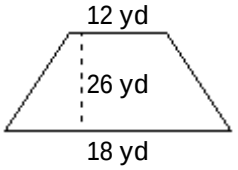
Answer: $1051\ \text{in.}^2$

39)

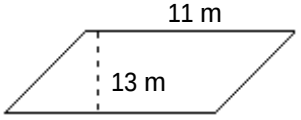


Answer: $1553\ \text{cm}^2$

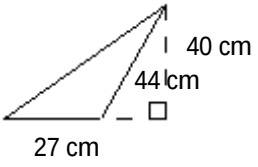
Find the area.

40) 

Answer: 390 yd^2

41) 

Answer: 143 m^2

42) 

Answer: 540 cm^2

Find the area. Leave your answer in terms of pi.

43) A circle with diameter 22 yd

Answer: 121.00π yd^2

44) A circle with radius 11.5 mi

Answer: 132.25π mi^2

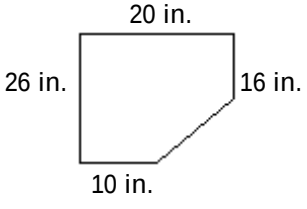
45) A <u>semicircle</u> with diameter 13 cm

Answer: 21.13π cm^2

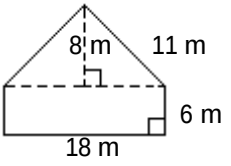
46) A circle with circumference 30π m

Answer: 225π m

Find the area.

47) 

Answer: 470 $in.^2$

48) 

Answer: 180 m^2

Solve the problem. Use 3.14 for π. Round your answer to the nearest hundredth.

49) How much will it cost to carpet a 18 ft by 13 ft room if carpeting costs $19.00 per square yard?

Answer: $494.00

50) A one-story building is 290 ft by 240 ft. If a square patio with sides 17 ft occupies the center of the building, how much area remains for offices?

Answer: 69,311 ft^2

51) Glenda wants to glue glitter over a piece of felt shaped like a parallelogram with a height of 58 in. and a base of 54 in. If the glitter costs $1.20 per ft^2, how much will it cost to cover the felt?

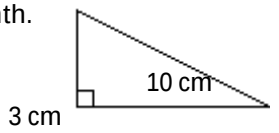
Answer: $26.10

52) Johnny can't decide which size pizza to order. The 10-inch cheese and sausage pizza is $4.99, while the 12-inch deluxe is $5.99. The dimensions given are the diameters of the pizzas. If he gets the 10-inch pizza, the total price will be divided among 3 people. If he chooses the 12-inch pizza, then the total price will be divided among 4 people. Which is the better buy? How much will each person pay?

Answer: 12-inch pizza; $1.50

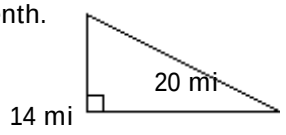
Solve the problem.

53) Find the missing length in the following right triangle. If necessary, round to the nearest tenth.



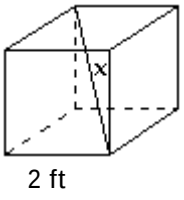
Answer: 9.5 cm

54) Find the missing length in the following right triangle. If necessary, round to the nearest tenth.



Answer: 14.3 mi

55) Find the value for x in the cube. Use exact values.



Answer: $2\sqrt{3}$ ft

Solve the problem. Round the answer to the nearest tenth, if necessary.

56) The side view of a plan for a slanted roof shows a vertical rise of 2 ft and a horizontal run of 20ft. Find the length of the roof slope.

Answer: 20.1 ft

57) A rope connects the top of a pole to the ground. The rope is 28 yd long and touches the ground 25 yd from the pole. How tall is the pole?

Answer: 12.6 yd

58) A painter leans a ladder against one wall of a house. The ladder is 25 ft long. The base of the ladder is 19 ft from the house. How high is the wall of the house?

Answer: 16.2 ft

Solve the problem.

59) Find the length of $\overline{AB}$. Round your answer to the nearest tenth.
A(2, 6), B(4, 3)

Answer: 3.6

60) Find the perimeter of the polygon with the following vertices.
A(-8, -6), B(2, 4), C(4, -6)

Answer: 36.34

61) Find the perimeter of the polygon with the following vertices.
A(1, 1), B(2, 4), C(5, 4), D(3, 3), E(3, 0)

Answer: 13.63

62) Find the surface area of a right rectangular prism 5 ft × 4 ft × 5 ft.

Answer: 130 ft^2

63) Find the surface area of a cube with an edge length of 7 ft.

Answer: 294 ft^2

64) Find the surface area of a right regular square pyramid with a side 8 in. and a slant height of 8 in.

Answer: 192 $in.^2$

65) Find the surface area of a right regular hexagonal pyramid with sides 3 cm and slant height 8 cm. Round your answer to the nearest hundredth.

Answer: 95.39 cm^2

Find the surface area of the figure. Use 3.14 as an approximation for π. Round your result to the nearest tenth.

66) A right circular cylinder with r = 9 cm, h = 4 cm

Answer: 734.8 cm^2

67) A sphere with r = 12 cm

Answer: 1808.6 cm^2

68) A sphere with r = $\frac{2}{3}$ in.

Answer: 5.6 $in.^2$

Convert the units.

69) 96 qt = ____ gal

Answer: 24

70) 61 ft^3 = ____ yd^3

Answer: 2.26

Solve the problem.

71) Find the volume of a cube measuring 12 in. on each edge.

Answer: 1728 $in.^3$

72) Find the volume of a box 13 cm × 22 cm × 20 cm .

Answer: 5720 cm^3

73) Three people build a rectangular shed 7 ft wide, 5 ft long, and 6 ft high. About how many ft^3 does the shed contain?

Answer: 210 ft^3

74) Find the volume of a triangular pyramid with base area 21 ft^2 and height 2 ft. Find the result to the nearest unit.

Answer: 14 ft^3

75) Find the volume of a rectangular pyramid with base 25 m^2 and height 8 m. Find the result to the nearest unit.

Answer: 67 m^3

76) At \$3.70 per $in.^3$, how much will it cost to fill an aquarium with dimensions of $5\frac{1}{3}$ in. × $5\frac{3}{4}$ in. × $4\frac{1}{3}$ in.?

Answer: \$491.69

77) Find the volume of a cylinder with radius 6 cm and height 5 cm. Use 3.14 for π. Round your answer to the nearest tenth.

Answer: 565.2 cm^3

78) Find the volume of a cylinder with diameter 8.4 cm and height 4.4 cm. Use 3.14 for π. Round your answer to the nearest tenth.

Answer: 243.7 cm^3

79) Find the volume of a sphere with radius 10 in. Use 3.14 for π. Round your answer to the nearest tenth.

Answer: 4186.7 $in.^3$

80) A cylindrical drain pipe is 4 inches across the top and about 9 inches high. How many cubic inches of water could it hold (to the nearest hundredth)?

Answer: 113.04 $in.^3$

81) A sphere has a 12 m diameter. What is its volume to the nearest hundredth?

Answer: 904.32 m^3