Areas & Perimeters

Find the area of each rectangle with the given base and height.

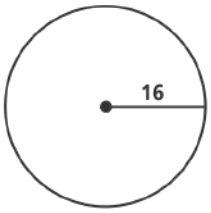
1. base: 3 ft
height: 22 in.

2. base: 60 in.
height: 1.5 yd

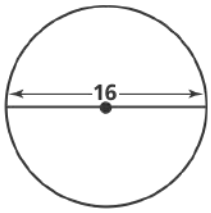
3. base: 2 m
height: 120 cm

Find the circumference of each circle in terms of π.

4.



5.



6.

Find the perimeter and area of each rectangle with the given base and height.

7. $b = 7$ cm, $h = 6$ cm

8. $b = 21$ cm, $h = 2$ cm

9. $b = 4$ in., $h = 10.5$ in.

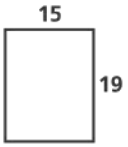
10. $b = 17$ ft, $h = 3$ ft

11. $b = 11$ m, $h = 9$ m

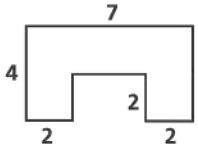
12. $b = 13$ m, $h = 7$ m

Find the perimeter and area of each figure. All angles in the figures are right angles.

13.



14.



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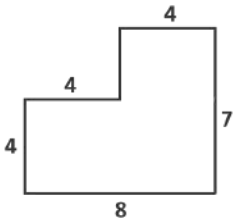
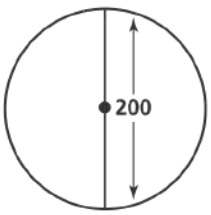


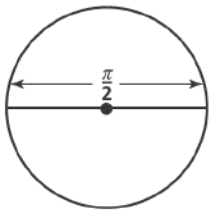
Find the area of each circle in terms of π.

16.

17.



18.



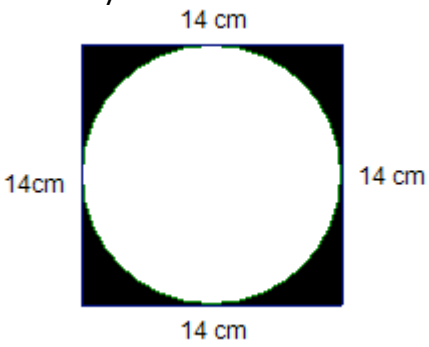
19. The circumference of a circle is 26π mm. Find the diameter and the radius.

Areas & Perimeters

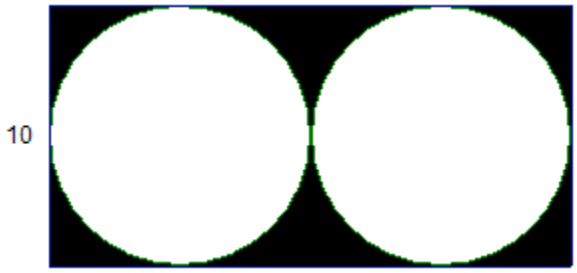
Unless stated otherwise, leave answers in terms of π.

20) Find the area of the shaded region if the big diameter is 12 in, and the small diameter is 8 in.

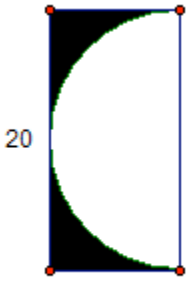
21) Find the area of the shaded region.
Use π = 22/7



22) Find the area of the shaded region:
use π = 3.1 4



23) Find the area of the shaded region:
use π = 3.14

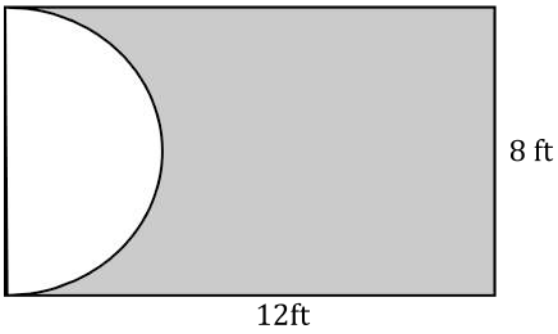


Areas & Perimeters

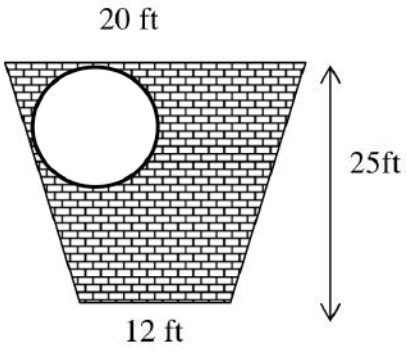
24) Mr. Saya has a rectangular foyer in his home. He wants to lay hardwood flooring on all of the area except for the semi circular area in front of the entrance door. **Use π = 3.14**

(a) Calculate to the nearest square foot how much hardwood flooring Mr. Saya will need.

(b) Calculate the cost of the hardwood flooring if it is priced at $2.25 per square foot.



25) Mr. Jones has a patio in the shape of a trapezoid. A round fountain having a circumference of 14π feet is placed in the corner as shown in the accompanying diagram. To the nearest square foot, how much of the patio's area is *not* taken up by the fountain? **Use π = 22/7**



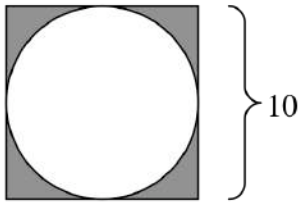
Areas & Perimeters

26) Careless Carl was attempting to calculate the exact area (in terms of π) of the shaded region shown below, where a circle is inscribed in a square. He did the following calculations.

$$A_{\text{square}} = 10 \cdot 10 = 100$$

$$A_{\text{circle}} = \pi(5)^2 = 25\pi$$

$$A_{\text{shaded}} = 100 - 25\pi = 75\pi$$



Explain in words the error that Carl made, and write the correct answer in terms of π.

27) A living room floor is 27 feet long and 15 feet wide. The price of carpeting is $60 per square yard. How much would it coast to purchase carpeting to cover this floor?

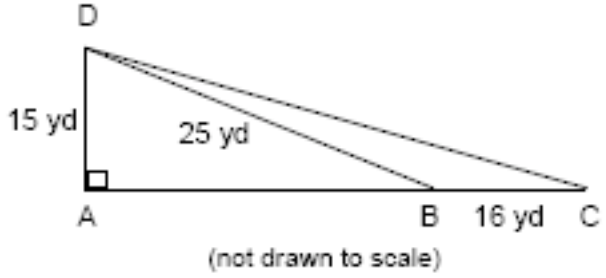
28) The radius of a circle is 7 cm. Find its circumference. **Use π = 22/7**

29) The area of a trapezoid is 120 cm^2. The two bases are 14 cm and 16 cm. Find the height.

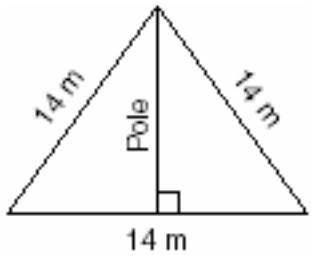
30) The Area of a circle is 25π cm^2. Find the circumference in terms of π.

Areas & Perimeters

31) Mr. Gonzalez owns a triangular plot of land *BCD* with *DB* = 25 yards and *BC* = 16 yards. He wishes to purchase the adjacent plot of land in the shape of right triangle *ABD*, as shown in the accompanying diagram, with *AD* = 15 yards. If the purchase is made, what will be the total number of square yards in the area of his plot of land, Δ*ACD*?



32) The accompanying diagram shows two cables of equal length supporting a pole. Both cables are 14 meters long, and they are anchored to points in the ground that are 14 meters apart. Find the area of the triangle. **(Round to the nearest tenth)**



Areas & Perimeters

Answers

1) 792 sq. in. or 5½ sq. ft

2) 3240 sq. in. or 2½ sq. yds

3) 24, 000sq. cm or 5⅖ sq. m.

4) C = 32π units

5) C = 16π units

6) C = 7.8π units

7) P = 26 cm; A = 42 sq. cm

8) P = 46 cm; A = 42 sq. cm

9) P 29 in; A = 42 sq. in

10) P = 40 ft; A = 51 sq. ft

11) P = 40 ft; A = 99 sq. ft

12) P = 40 m; A 91 sq. m

13) P = 68 units; A = 285 sq. units

14) P = 26 units; A = 22 sq. units

15) P = 30 units; A = 44 sq. units

16) A = 156¼π sq. units

17) A = 10,000π sq. units

18) A = $\frac{\pi^3}{16}$ sq. units

19) d = 26 mm; r = 13 mm

20) A = 20π sq. in

21) A = 42 sq. cm

22) A = 43 sq. units

23) A = 43 sq. units

24) a) 71 sq. ft b) $159.75

25) 246 sq. ft

26) Discuss in class.

27) $2,700

28) C = 44 cm

29) h = 8 cm

30) C = 10π cm

31) A = 270 sq. yds

32) A = 84.7 sq. m