

Areas & Perimeters

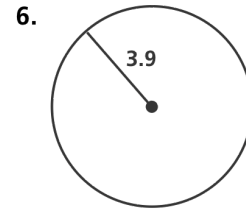
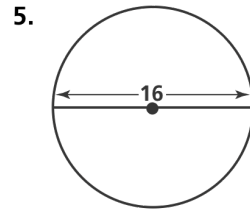
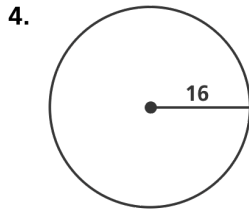
Find the area of each rectangle with the given base and height.

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  $\pi$ .



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

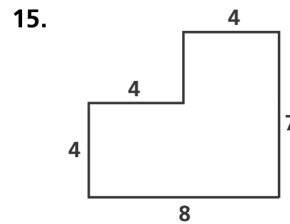
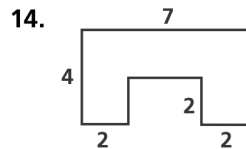
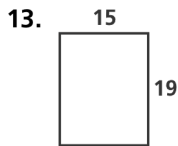
9.  $b = 4$  in.,  $h = 10.5$  in.

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

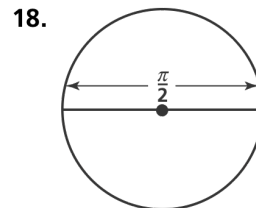
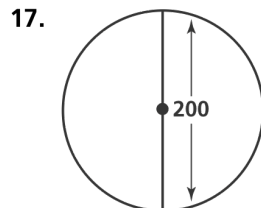
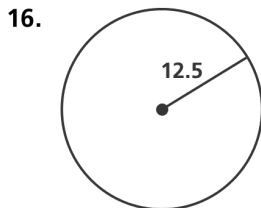
11.  $b = 11$  m,  $h = 9$  m

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

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



Find the area of each circle in terms of  $\pi$ .



19. The circumference of a circle is  $26\pi$  mm. Find the diameter and the radius.

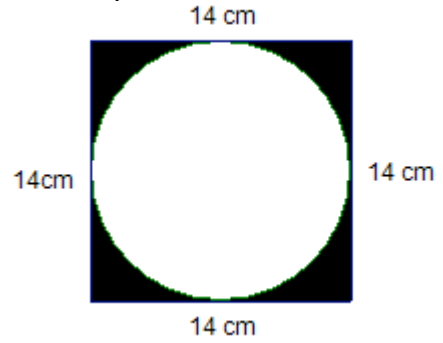
Areas & Perimeters

**Unless stated otherwise, leave answers in terms of  $\pi$ .**

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



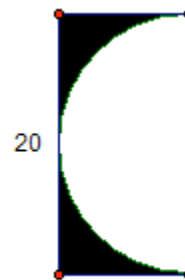
21) Find the area of the shaded region.  
Use  $\pi = 22/7$



22) Find the area of the shaded region:  
use  $\pi = 3.14$



23) Find the area of the shaded region:  
use  $\pi = 3.14$

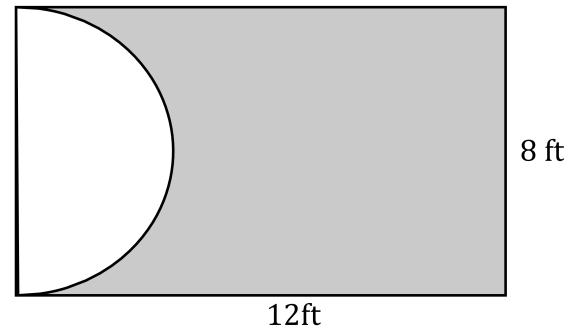


Areas & Perimeters

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  $\pi = 3.14$**

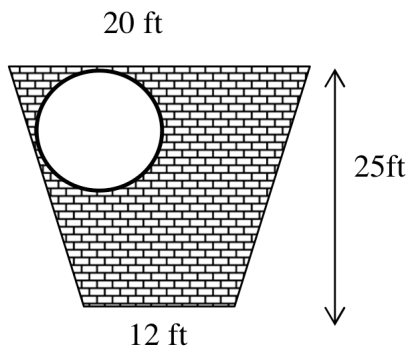
(a) Calculate to the nearest square foot how much hardwood flooring Mr. Saya will need.

(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  $14\pi$  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  $\pi = 22/7$**



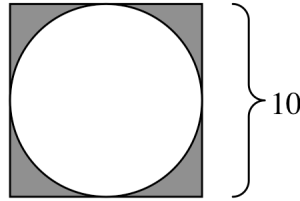
## Areas &amp; Perimeters

26) Careless Carl was attempting to calculate the exact area (in terms of  $\pi$ ) 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  $\pi$ .

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?

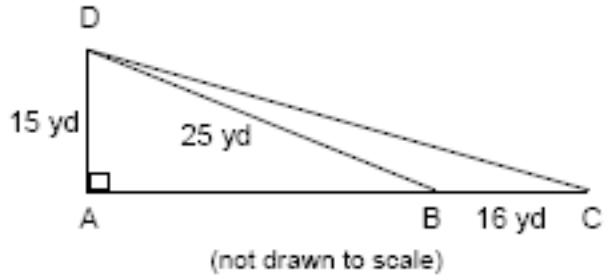
28) The radius of a circle is 7 cm. Find its circumference. **Use  $\pi = 22/7$**

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

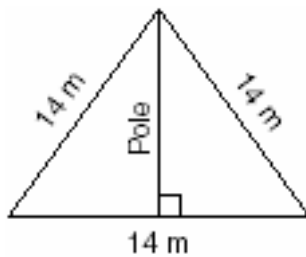
30) The Area of a circle is  $25\pi \text{ cm}^2$ . Find the circumference in terms of  $\pi$ .

## Areas &amp; 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,  $\triangle ACD$ ?



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 &amp; Perimeters

Answers

1) 792 sq. in. or  $5\frac{1}{2}$  sq. ft

22)  $A = 43$  sq. units

2) 3240 sq. in. or  $2\frac{1}{2}$  sq. yds

23)  $A = 43$  sq. units

3) 24,000sq. cm or  $5\frac{2}{5}$  sq. m.

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

4)  $C = 32\pi$  units

25) 246 sq. ft

5)  $C = 16\pi$  units

26) Discuss in class.

6)  $C = 7.8\pi$  units

27) \$2,700

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

28)  $C = 44$  cm

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

29)  $h = 8$  cm

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

30)  $C = 10\pi$  cm

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

31)  $A = 270$  sq. yds

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

32)  $A = 84.7$  sq. m

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)  $A = 156\frac{1}{4}\pi$  sq. units

17)  $A = 10,000\pi$  sq. units

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

19)  $d = 26$  mm;  $r = 13$  mm

20)  $A = 20\pi$  sq. in

21)  $A = 42$  sq. cm