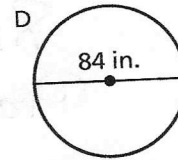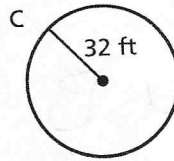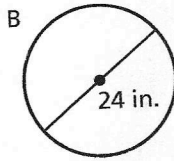## 8.1 Enrichment and Extension
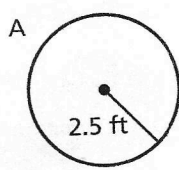
1. Copy and complete the table for Circles A, B, C, and D.

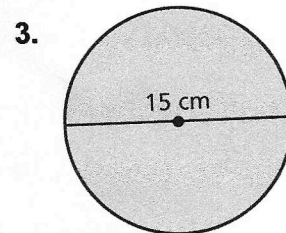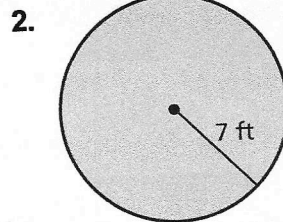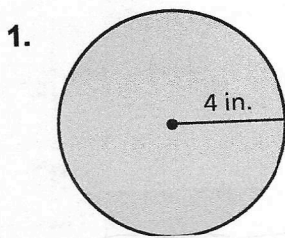| Circle	A	B	C	D
Radius	2.5 ft	ft	32 ft	ft
Diameter	in.	24 in.	in.	84 in.

Changing Dimensions

2. Find the circumference of the circle. Then find the circumference if the radius is multiplied by 2. Use 3.14 for π.

1.

4 in.

2.

7 ft

3.

15 cm

4. What happens to the circumference of a circle when its radius is multiplied by 2?

**5.** What happens to the circumference of a circle when its radius is multiplied by a positive number n?

3. Find the perimeter of the semicircle. Then find the perimeter if the radius is multiplied by $\frac{1}{2}$. Use 3.14 for π.

6.

5 mm
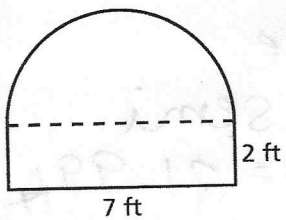
7.

2 in.

8.

20 m
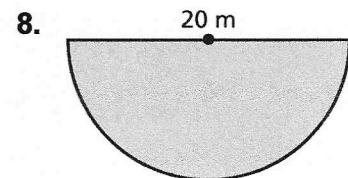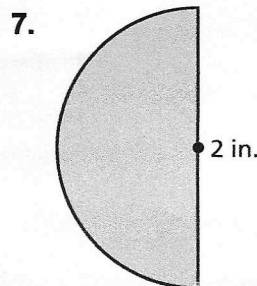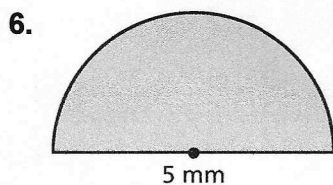
9. What happens to the perimeter of a semicircle when its diameter is multiplied by $\frac{1}{2}$?

10. What happens to the perimeter of a semicircle when its radius is multiplied by a positive number n?

8.2 Enrichment and Extension

1.

4 in.   4 in.

2.

6 ft   6 ft

3.

12 cm

10 cm

12 cm
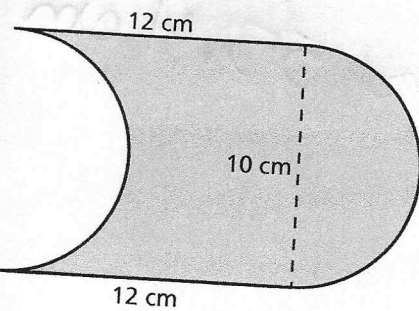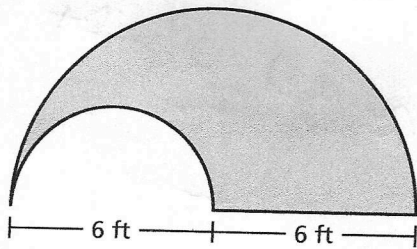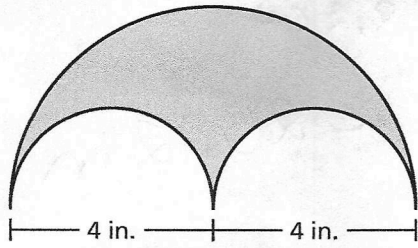
Describe and correct the error in finding the perimeter of the figure.

2 ft

7 ft

$\times$ Perimeter ≈ 2 + 7 + 2 + 21.98

= 32.98 ft

8.3 Enrichment and Extension

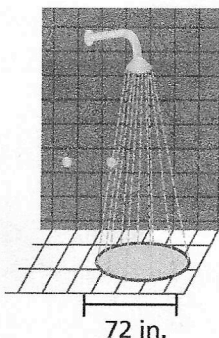1. The number of square inches of a circle's area is equal to the number of inches of its circumference. What is the radius of the circle? Explain how you found your answer.

2. The radius of the small circle is half the radius of the large circle.

   a. Use the radius r to write a formula for the area of the large circle.

   b. Use the radius $\dfrac{r}{2}$ to write a formula for the area of the small circle.

   c. How does the area of a circle compare to the area of another circle whose radius is twice as large? Explain your reasoning.
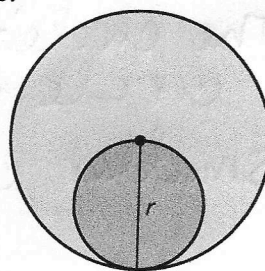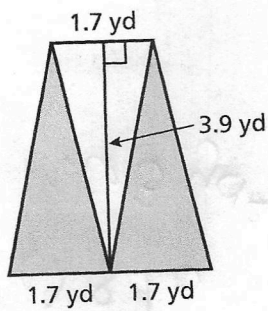
3. How many *square feet* of the ground are sprayed by the beach shower?
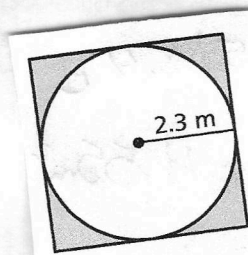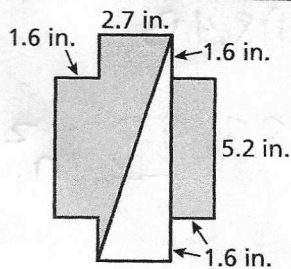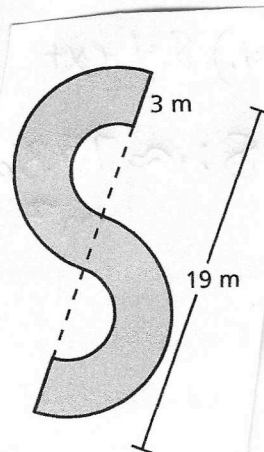
   72 in.
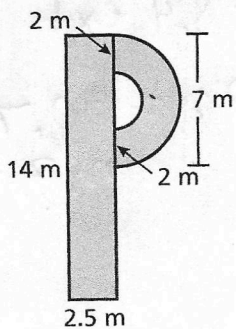
8.4 Enrichment and Extension

①
1.7 yd

3.9 yd

1.7 yd   1.7 yd

②
2.3 m

③
1.6 in.   2.7 in.
1.6 in.
5.2 in.
1.6 in.

④
3 m

19 m

⑤
2 m
7 m
14 m   2 m
2.5 m

⑥
2.5 m

2.5 m