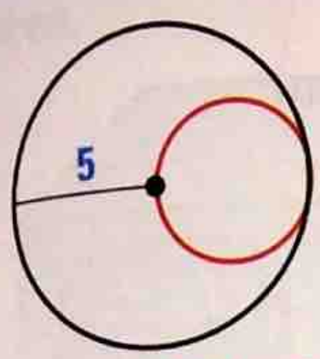
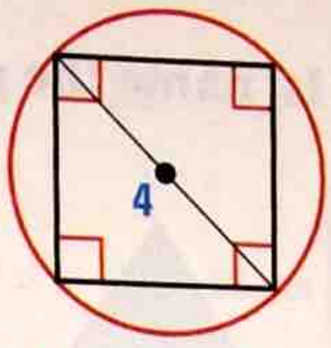
11.4 Find the circumference of the red circle.

25.



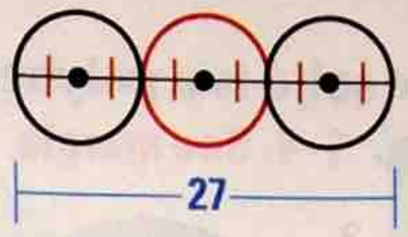
about 15.71 units

26.



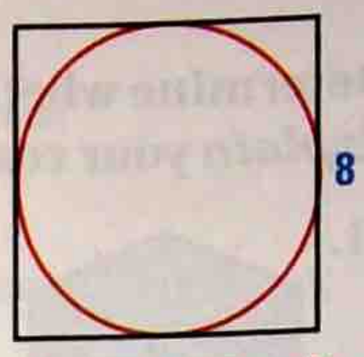
about 12.57 units

27.



about 28.27 units

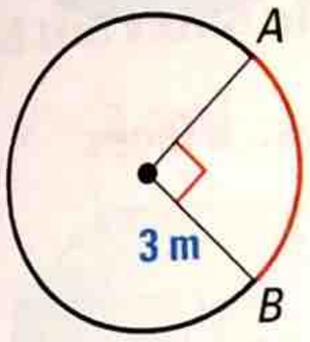
28.



about 25.13 units

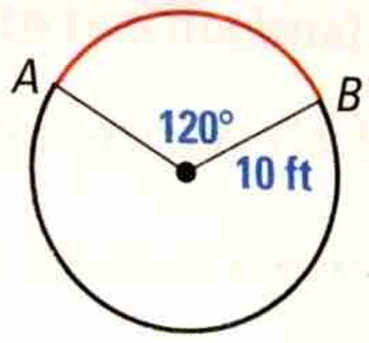
11.4 Find the length of $\overset{\frown}{AB}$.

29.



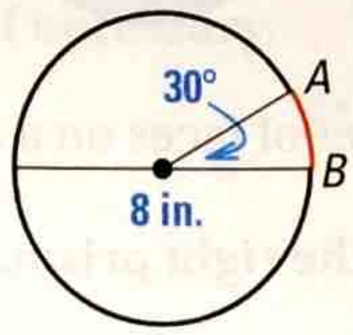
about 4.71 m

30.



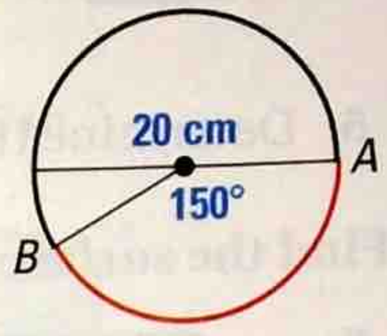
about 20.94 ft

31.



about 2.09 in.

32.



about 26.18 cm

11.5 Find the exact area of a circle with the given radius r or diameter d. Then find the area to the nearest hundredth.

33. $r = 3$ in.
9π in.^{2}; 28.27 in.^{2}

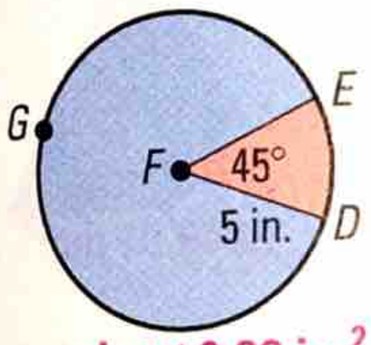
34. $r = 2.5$ cm
6.25π cm^2; 19.63 cm^2

35. $d = 20$ ft
100π ft^2; 314.16 ft^2

36. $d = 13$ m
42.25π m^2; 132.73 m^2

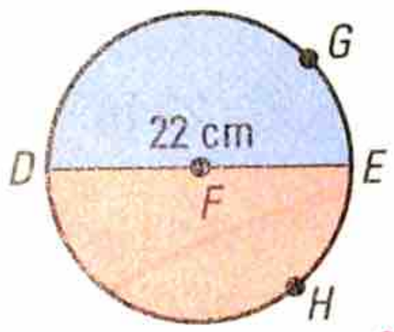
11.5 Find the areas of the sectors formed by $\angle DFE$.

37.



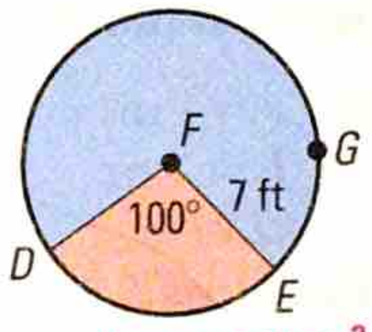
about 9.82 in.^{2}

38.



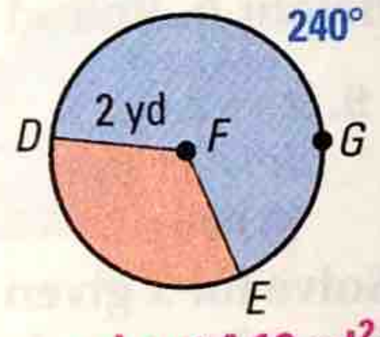
about 190.07 cm^2

39.



about 42.76 ft^2

40.



about 4.19 yd^2

11.6 Find the measure of a central angle of a regular polygon with the given number of sides.

41. 8 sides 45°

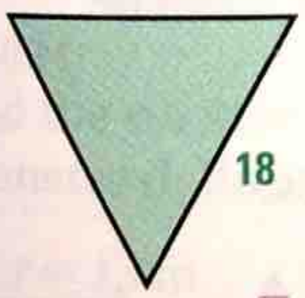
42. 12 sides 30°

43. 20 sides 18°

44. 25 sides 14.4°

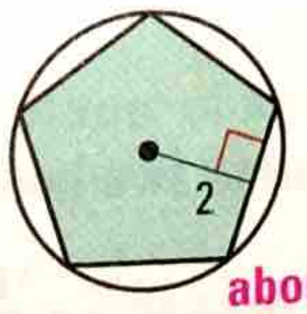
11.6 Find the perimeter and area of the regular polygon.

45.



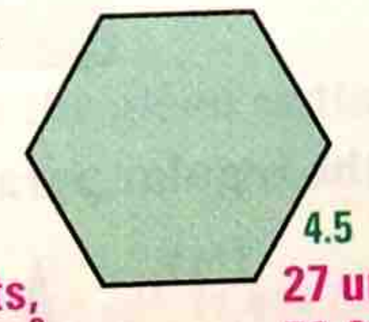
54 units, $81\sqrt{3}$ units^2

46.



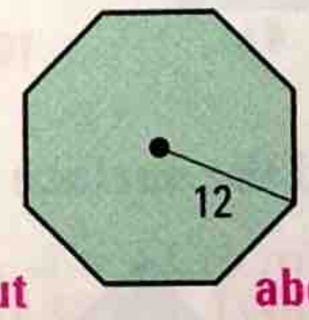
about 14.53 units, about 14.53 units^2

47.



27 units, about 52.61 units^2

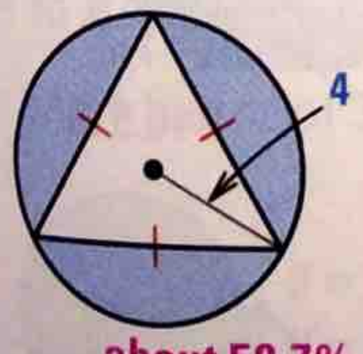
48.



about 73.48 units, about 407.29 units^2

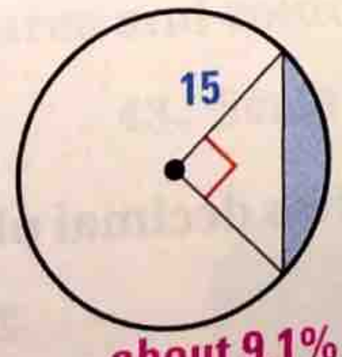
11.7 Find the probability that a randomly chosen point in the figure lies in the shaded region.

49.



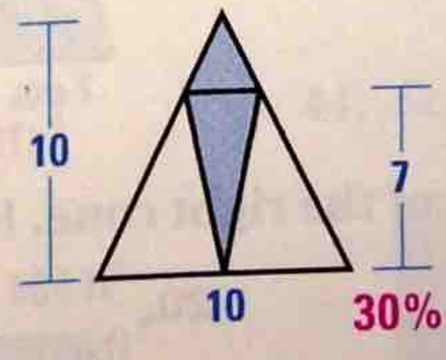
about 58.7%

50.

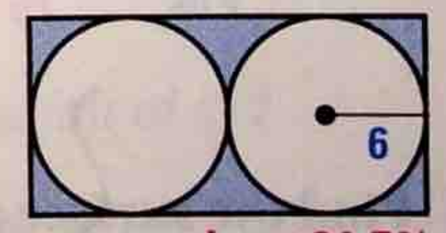


about 9.1%

51.



52.

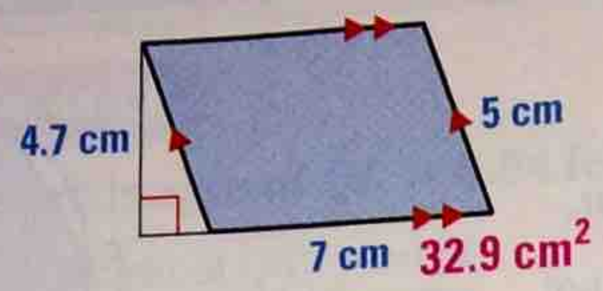


about 21.5%

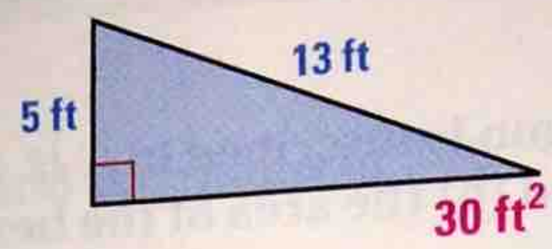
11.7 53. A local radio station plays your favorite song once every two hours. Your favorite song is 4.5 minutes long. If you randomly turn on the radio, what is the probability that your favorite song will be playing? 3.75%

11 CHAPTER TEST

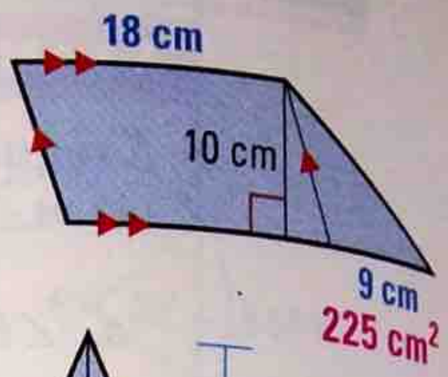
In Exercises 1–6, find the area of the shaded polygon.

1. 

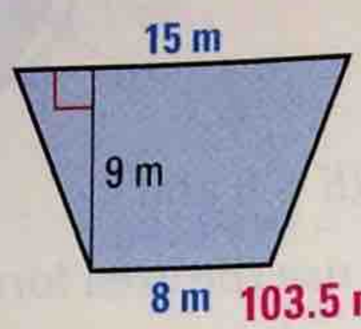
32.9 cm²

2. 

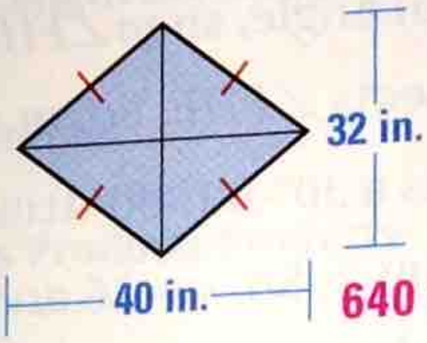
30 ft²

3. 

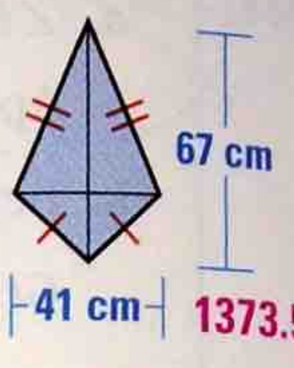
225 cm²

4. 

103.5 m²

5. 

640 in.²

6. 

1373.5 cm²

7. The base of a parallelogram is 3 times its height. The area of the parallelogram is 108 square inches. Find the base and the height. 18 in., 6 in.

Quadrilaterals *ABCD* and *EFGH* are similar. The perimeter of *ABCD* is 40 inches and the perimeter of *EFGH* is 16 inches.

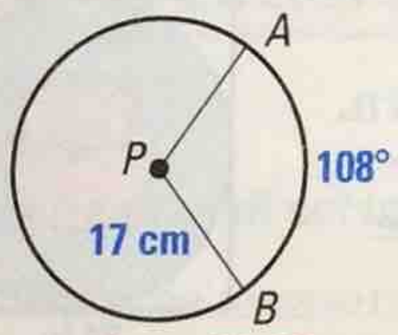
8. Find the ratio of the perimeters of *ABCD* to *EFGH*. 5:2

9. Find the ratio of the corresponding side lengths of *ABCD* to *EFGH*. 5:2

10. Find the ratio of the areas of *ABCD* to *EFGH*. 25:4

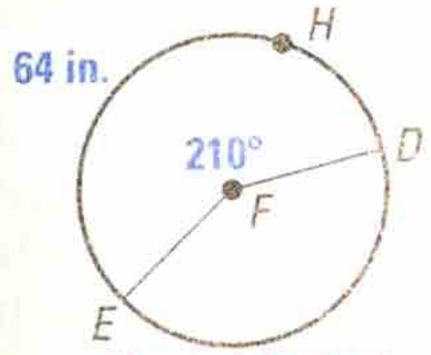
Find the indicated measure for the circle shown.

11. Length of $\overset{\frown}{AB}$



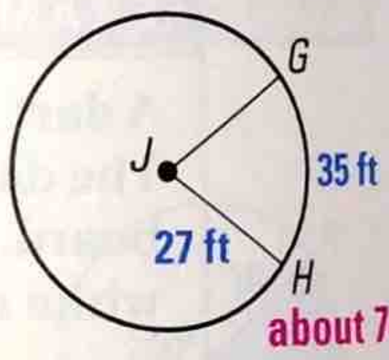
about 32.04 cm

12. Circumference of $\odot F$



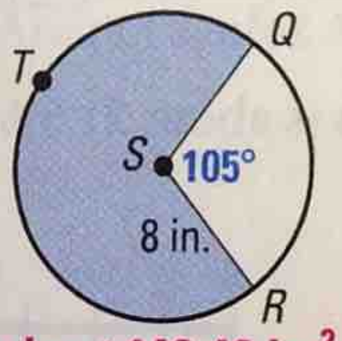
about 109.71 in.

13. $m\overset{\frown}{GH}$



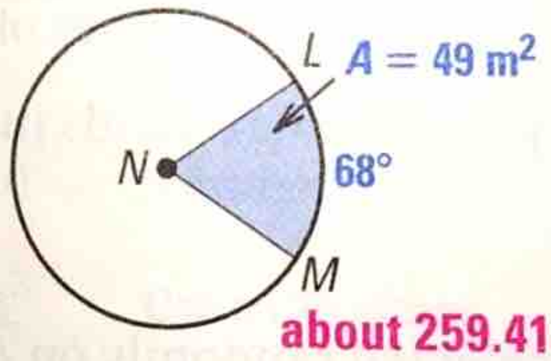
about 74.27°

14. Area of shaded sector



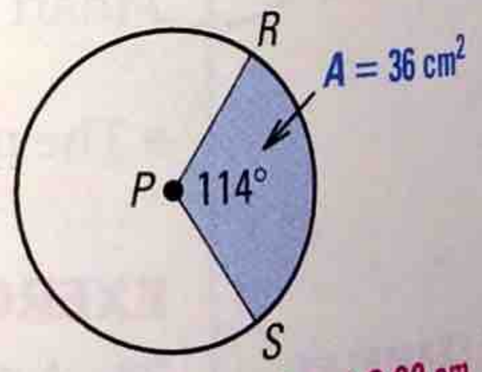
about 142.42 in.²

15. Area of $\odot N$



about 259.41 m²

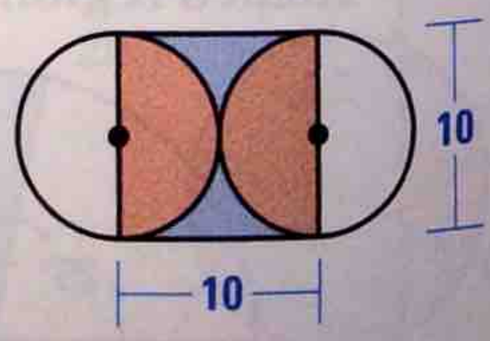
16. Radius of $\odot P$



about 6.02 cm

17. **TILING** A floor tile is in the shape of a regular hexagon and has a perimeter of 18 inches. Find the side length, apothem, and area of the tile. 3 in., about 2.60 in., about 23.4 in.²

Find the probability that a randomly chosen point in the figure lies in the region described.



18. In the red region about 44%

19. In the blue region about 12%