Key Words

For #1 to #7, choose the letter representing the term that best matches each statement.

1. The distance from the centre of a circle to a point on the circle

2. Twice the radius of a circle

3. Approximately three times the diameter of the circle

4. The ratio $\dfrac{circumference}{diameter}$

5. An expression for the area of a circle

6. The sum of the central angles in a circle

7. A display that shows how categories of data compare to each other and to the whole

A circumference

B radius

C pi

D 360°

E $\pi \times r^2$

F diameter

G $2 \times \pi \times r$

H circle graph

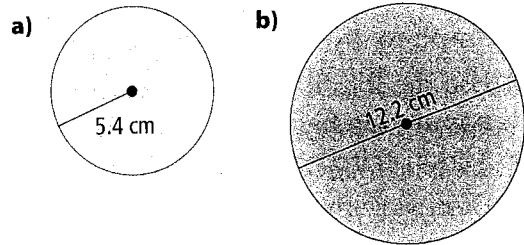## 8.1 Construct Circles, pages 268–272

8. Draw a circle with a radius that is the length of each line segment.

   a) _____

   b) _____

   c) _____

9. Draw a circle with each diameter.

   a) $d = 9$ cm

   b) $d = 40$ mm

   c) $d = 14$ cm

10. Using 1-cm grid paper, plot points A(−5, 3) and B(0, −1). Using point A as the centre, draw a circle of radius 6 cm. Does point B lie within the circle?

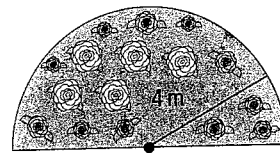## 8.2 Circumference of a Circle, pages 273–279

Use 3.14 for π in calculations.

Answer to the nearest tenth of a unit, unless otherwise indicated.

11. What is the circumference of each circle?

    a)
    5.4 cm

    b)
    12.2 cm

12. What is the circumference of a circle with each given measurement?

    a) $r = 3$ m

    b) $r = 0.9$ km

    c) $d = 1.4$ m

    d) $d = 210$ cm

13. A circular window has a diameter of 1.2 m. What is the circumference of the window frame?

14. David wants to place a fence around a semi-circular flower garden. The garden has a radius of 4 m.
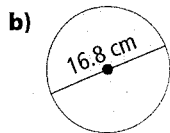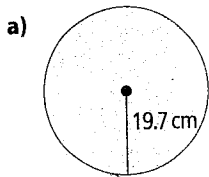
    4 m

    a) What length of fence does he need to buy?

    b) If the fencing costs $7.25 per metre, how much does it cost to enclose the garden?

8.3 Area of a Circle, pages 280–286

Use 3.14 for π in calculations.

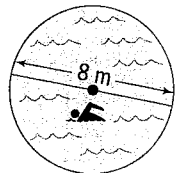*Answer to the nearest tenth of a square unit, unless otherwise indicated.*

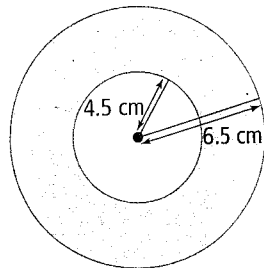**15.** What is the area of each circle?

a) 19.7 cm

b) 16.8 cm

16. What is the area of a circle with each given measurement?

a) $r = 4.1$ m

b) $r = 1.3$ km

c) $d = 15.7$ m

d) $d = 25.6$ mm

17. Trevor is looking for a pool cover for his circular swimming pool. What is the area of the pool?
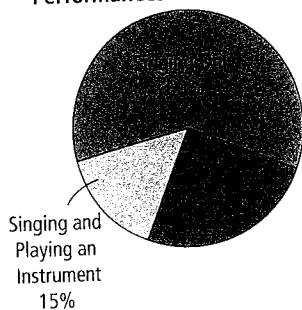
8 m

18. What is the area of the shaded region?

4.5 cm   6.5 cm
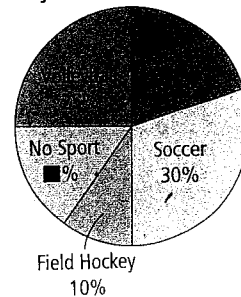
8.4 Interpret Circle Graphs, pages 287–291

19. The circle graph shows the types of performances at a recent tryout for Canadian Idol. If there were 2500 competitors, how many both sang and danced in their tryout?

Performances at Canadian Idol

Singing and Playing an Instrument 15%

20. Steven makes a circle graph of the favourite sports the students in grade 7 are playing this season.

a) If there are 60 students in grade 7, how many students prefer to play baseball?

b) What percent of the students prefer to play no sports this season?

c) What two sports do half of the students in grade 7 prefer to play?

Sports Played This Season by Grade 7 Students

No Sport ■%   Soccer 30%

Field Hockey 10%

8.5 Create Circle Graphs, pages 292–297

21. A radio station programs one hour of air time as shown in the table.

Type	Minutes
Music	30
News	12
Traffic	6
Commercials	12

Create a circle graph to display the data.

22. The 2001 Census recorded the following population numbers for the First Nations in four of the provinces or territories.

Area	Population
Yukon Territory	6 545
Nunavut	22 720
Saskatchewan	130 190
British Columbia	170 025

a) Create a circle graph to display the data.

b) Why do you think there are differences in the population numbers? Discuss with a partner.