Math 7: MCA 6 Practice – Circles and Cylinders
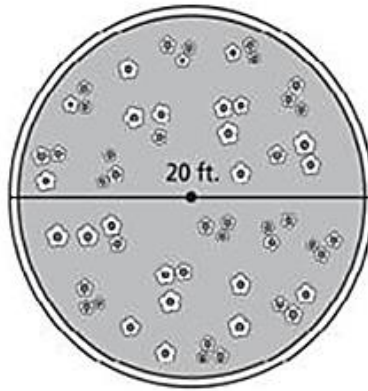
Directions: Read each question carefully. Show your work or explain your answer for each problem.

1.   Alex has a circular flower garden. The diameter of the garden is 20 feet. What is the circumference of the flower garden?
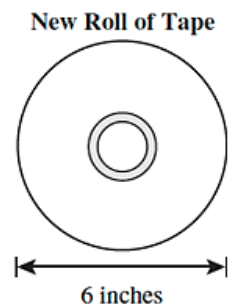
   A.   23.14 feet

   B.   62.8 feet

   C.   125.6 feet

   D.   314 feet

Circumference of a Circle
$C = 2\pi r$
C = circumference
r = radius
(Use 3.14 for π.)

20 ft.

2.   The diameter of Darren's new roll of painter tape was 6 inches. After Darren used some of the tape, the diameter of the roll had decreased by 0.5 inches. Which is closest to the circumference of the roll of tape after this decrease?

   A.   5.5 inches

   B.   8.635 inches

   C.   17.27 inches

   D.   18.84 inches

New Roll of Tape

6 inches

3.   Linda purchased a vegetarian pizza that was served on a metal tray. On the back of the tray, small letters stated that it has a circumference of 18.84 inches. What is the tray's radius?

4.   A cylinder has a height of x inches. The radius of the base is also x inches. Which gives the volume of the cylinder?

A. $2\pi x^2$

B. $\frac{1}{2}\pi x^3$

C. $\frac{1}{4}\pi x^3$

D. πx^3

5.   A cylinder is 21 cm long and its diameter is 8 cm. What is the volume of the cylinder?

A.   168 cubic centimeters

B.   4220.16 cubic centimeters
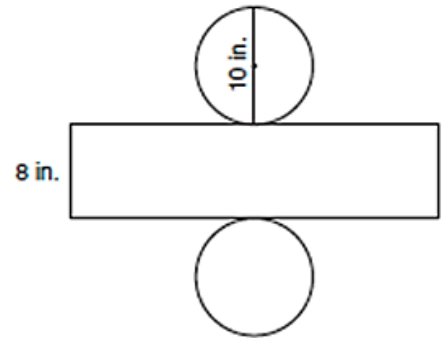
C.   1055.04 cubic centimeters

D.   527.52 cubic centimeters

6.   Find the area and circumference of the shape.   (Hint: Pac Man is $\frac{3}{4}$ of a circle)
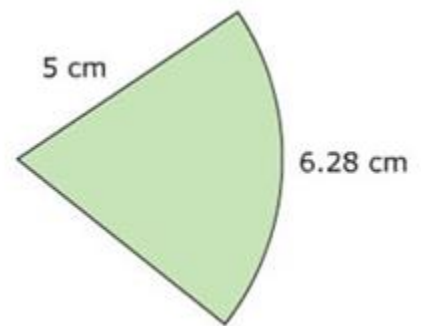
8 cm

7.   The net of a cylinder is shown below. Which is closest to the lateral surface area of this cylinder?

     A.   155 square inches

     B.   251 square inches

     C.   400 square inches

     D.   80 square inches

10 in.

8 in.

8.   A sector of a circle is shown. What is the area of the sector? (Use 3.14 for π)

     A.   12.5 square centimeters

     B.   15.7 square centimeters

     C.   31.4 square centimeters

     D.   78.5 square centimeters

5 cm

6.28 cm

9.   Find the area of a circle if the radius is 5 centimeters.

10.   Find the circumference of a circle if the radius is 5 centimeters.

11.   Find the area of a circle if the diameter is 5 centimeters.

12.   Find the surface area of a cylinder with a height of 8 inches and a radius of 3 inches.