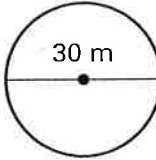NAME _Key_   PERIOD _____ DATE _____
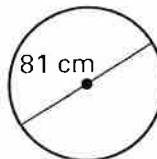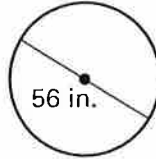
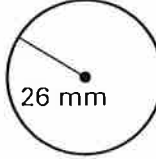*READ TEXT PAGES 528-529. ANSWER THE FOLLOWING QUESTIONS.*

1) A circle consists of all points in a plane that are the same distance from a fixed point

   called the ___Center___.

2) What is the radius? ___distance from center to any pt on circle___

3) What is the diameter? ___distance from one side to the other through center___

4) The circumference of a circle is ___perimeter (distance around circle)___.

5) The Greek letter *pi* is equal to what two numbers. ___3.14 and $\frac{22}{7}$___

6) Write the two formulas for Circumference. ___$C = \pi d$ $C = 2\pi r$___

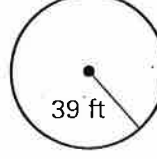7) Write the formula for Area of a Circle. ___$A = \pi r^2$___

Find the circumference of the circle. Use 3.14 or $\frac{22}{7}$ for π. Round to the nearest whole number.
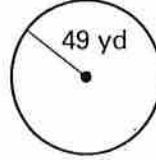
1.
30 m

$C = 3.14(30)$
$= 94.2$
$\boxed{94\ m}$

2.
81 cm

$C = 3.14(81)$
$= 254.34$
$\boxed{254\ cm}$

3.
56 in.

$C = 3.14(56)$
$= 175.84$
$\boxed{176\ in}$

4.
26 mm

$C = 2(3.14)(26)$
$= 163.28$
$\boxed{163\ mm}$

5.
39 ft

$C = 2(3.14)(39)$
$= 244.92$
$\boxed{245\ ft}$

6.
49 yd
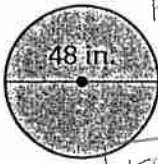
$C = 2(3.14)(49)$
$= 307.72$
$\boxed{308\ yd}$

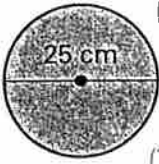For a circle with the given circumference C, <u>find the radius and diameter</u> of the circle. Round to the nearest whole number.

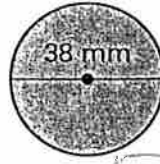7. $C = 63$ m

$63 = 3.14d$
$d = 20.06$

$\boxed{d = 20m}$
$\boxed{r = 10m}$

8. $C = 91$ ft

$91 = 3.14d$
$d = 28.98$

$\boxed{d = 29\ ft}$
$\boxed{r = 15\ ft}$

9. $C = 132$ in.

$132 = 3.14d$
$d = 42.04$

$\boxed{d = 42\ in}$
$\boxed{r = 21\ in}$

Find the area of the circle. Use 3.14 or $\frac{22}{7}$ for π. Round to the nearest whole number.

10.

48 in.

$A = 3.14(24)^2$
$A = 3.14(576)$
$= 1808.64$

$\boxed{1809 \text{ in}^2}$

11.

25 cm

$A = 3.14(12.5)^2$
$A = 3.14(156.25)$
$= 490.625$

$\boxed{491 \text{ cm}^2}$

12.

38 mm

$A = 3.14(19)^2$
$= 3.14(361)$
$= 1133.54$

$\boxed{1134 \text{ mm}^2}$

13.

27 yd.

$A = 3.14(27)^2$
$= 3.14(729)$
$= 2289.06$

$\boxed{2289 \text{ yd}^2}$

14.

63 m

$A = 3.14(63)^2$
$= 3.14(3969)$
$= 12462.66$

$\boxed{12463 \text{ m}^2}$

15.

84 ft

$A = 3.14(84)^2$
$= 3.14(7056)$
$= 22155.84$

$\boxed{22156 \text{ ft}^2}$

For a circle with the given area A, find the radius and diameter of the circle. Round to the nearest whole number.

16. $A = 113 \text{ cm}^2$

$113 = 3.14 r^2$
$\sqrt{35.987} = \sqrt{r^2}$
$5.999 = r$

$\boxed{r = 6 \text{ cm} \quad d = 12 \text{ cm}}$

17. $A = 3018 \text{ ft}^2$

$3018 = 3.14 r^2$
$\sqrt{961.15} = \sqrt{r^2}$
$31 = r$

$\boxed{r = 31 \text{ ft} \quad d = 62 \text{ ft}}$

18. $A = 7850 \text{ m}^2$

$7850 = 3.14 r^2$
$\sqrt{2500} = \sqrt{r^2}$
$50 = r$

$\boxed{r = 50 \text{ m} \quad d = 100 \text{ m}}$

19. A manhole cover has a diameter of 24 inches. Find the circumference of the manhole cover to the nearest inch.

24 in

$C = \pi d$
$= 3.14(24)$
$= 75.36$

$\boxed{C = 75 \text{ in}}$

20. The base of a yogurt container has a circumference of about 22 centimeters. Find the radius and diameter of the base to the nearest centimeter.

$C = 22 \text{ cm}$

$22 = 3.14 d$
$7.01 = d$

$\boxed{d = 7 \text{ cm} \\ r = 4 \text{ cm}}$