Name: _____

Circumference of a Circle Word Problems

BRITNEY'S BRACELETS

1.) Britney sells three sizes of circular bracelets: small, medium, and large. If a small bracelet has a diameter of 2.8 inches, a medium bracelet has a diameter of 3.2 inches, and a large bracelet has a diameter of 3.9 inches. Find each of the following:

a.) The circumference of a small bracelet (to the nearest hundredths decimal place)

b.) The circumference of a medium bracelet (to the nearest hundredths decimal place)

c.) The circumference of a large bracelet (to the nearest hundredths decimal place)

2.) Britney is making 25 circular bracelets using a red chord. If each bracelet is going to have a diameter of 2.75 inches, how many inches of chord will she need (to the nearest inch)?

3.) Britney is currently working on two custom orders for bracelets made out of rope. The first order is for two bracelets that each have a diameter of 3.3 inches. The second order is for one extra large bracelet with a diameter of 6.5 inches. Which order will require more rope?

4.) Britney made a giant bracelet to display on the wall of her shop that has a circumference of 13.7 meters. What is the radius of the giant bracelet to the nearest hundredths decimal place?

ANSWER KEY

1.)
a.) **Small:** $\boldsymbol{C = \pi d \longrightarrow C = \pi \times 2.8 \approx 17.59\ in}$
b.) **Medium:** $\boldsymbol{C = \pi d \longrightarrow C = \pi \times 3.2 \approx 20.11\ in}$
c.) **Large:** $\boldsymbol{C = \pi d \longrightarrow C = \pi \times 3.9 \approx 24.5\ in}$

2.) $\boldsymbol{C = \pi d \longrightarrow C = \pi \times 2.75 \approx 8.64}$
$\boldsymbol{8.64 \times 25 = 216}$
She will need 216 inches of chord.

3.)
Order #1
$\boldsymbol{C = \pi d \longrightarrow C = \pi \times 3.3 \approx 10.367}$
$10.367 \times 2 = \boldsymbol{20.73}$
Order #2
$\boldsymbol{C = \pi d \longrightarrow C = \pi \times 6.5 \approx 20.42}$
$20.73 > 20.42$
The first order will require more rope.

4.)

$C = \pi \times d$
$13.7 = \pi \times d$
$4.360845441 \approx d$
$4.36 \approx d$
$2.18 \approx r$
The radius is approximately 2.18 meters.