

1/17/19

Name: _____

Approximate vs Exact Values: Generally we use the approximation 3.14, so if we use 3.14 (or any other decimal form), the answer is an APPROXIMATE answer! If we leave π in our answer, the answer would be EXACT!

Formula for Circumference:
 $C = \pi d$ $C = 2\pi r$
 Approximate = rounding
 Exact = not rounding

1) What is the exact circumference of a circle with a diameter of 8 cm?

$C = \pi d$ $C = 8\pi \text{ cm}$

2) What is the approximate circumference of a circle with a diameter of 4 cm?

$C = 4\pi \approx 12.57 \text{ cm}$

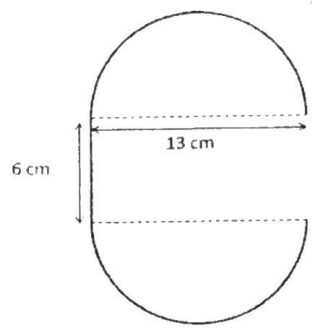
3) What is the approximate circumference of a circle with a radius of 9 meters?

$C = 18\pi$ $C \approx 56.5 \text{ cm}$

4) What is the radius of a circle with a circumference of 12 cm?

$C = 2\pi r$ $12 = 2\pi r$ $12/2\pi \approx 1.9 \text{ cm}$

5) What is the approximate perimeter of this figure?

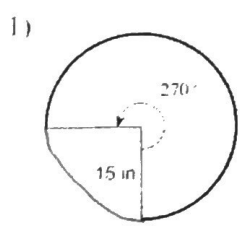


$C = \pi d$ $C = 13\pi \approx 40.84 + 12 \approx 52.84 \text{ cm}$

Arc Length Proportion:

Arc length = $\frac{2\pi r \theta}{360}$

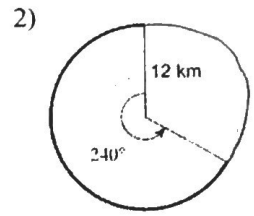
Find the length of each arc. Round your answers to the nearest tenth.



$AL = \frac{2\pi r \theta}{360}$
 $= \frac{2\pi \cdot 15 \cdot 270}{360}$

$\approx 70.7 \text{ in}$

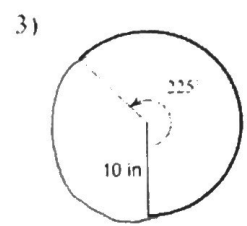
exact = 22.5π



$AL = \frac{2 \cdot \pi \cdot 12 \cdot 240}{360}$

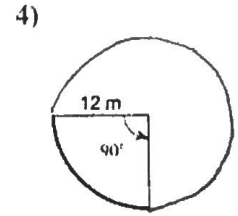
$\approx 50.3 \text{ km}$

Find the length of each arc. Leave your answer in pi form (exact form).



$AL = \frac{2 \cdot \pi \cdot 10 \cdot 225}{360}$
 $= \frac{4500\pi}{360}$

$= \frac{25}{2}\pi$



$AL = \frac{2 \cdot \pi \cdot 12 \cdot 90}{360}$

$= 6\pi \text{ m}$