

U12 Topic 3 – Circumference Backwards

Aim: How can we calculate the radius or diameter given the circumference of a circle?

Recall:

- 1) What is the **formula** for the circumference of a circle? _____
- 2) If a circle has a diameter of 17 cm, what is the measure of the radius? _____

Example #1: Find the **radius** of a circle whose circumference is 60π mm.

Step 1: Write the formula. F

Step 2: Substitute. S

Step 3: Do the math. M

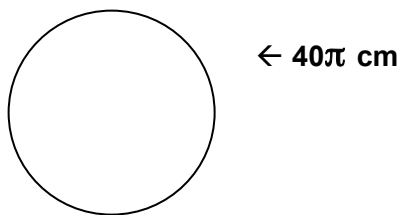
** Divide both sides by 2.*

Divide both sides by π (they will cancel)

Step 4: Round and label your answer. U

Try It!

Find the **radius** and **diameter** of a circle whose circumference is 40π cm.



radius = _____ **diameter** = _____

Example #2: Find the **radius** of a circle whose circumference is **40 cm**. Round to the nearest whole number.

Step 1: Write the formula. F

Step 2: Substitute. S

Step 3: Do the math. M

* *Divide both sides by 2.*

Divide both sides by π (use the button!)

Step 4: Round and label your answer. U

Try It!

Find the **radius** and **diameter** of a circle whose circumference is 22 inches. Round to the nearest whole number.

radius = _____ **diameter** = _____

Example #3: Find the **radius** of a circle whose circumference is **16 ft**. Use 3.14 for π . Round to the nearest tenth.

Step 1: Write the formula. F

Step 2: Substitute. S

* *Use 3.14 for π .*

Step 3: Do the math. M

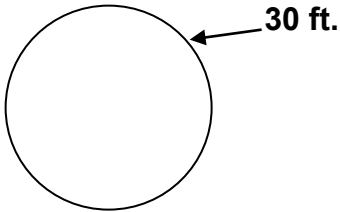
* *Multiply (2)(3.14), then divide by the product.*

Step 4: Round and label your answer. U

U12 Problem Set 3 – Circumference Backwards

#1-3 Answer the following questions. Show all work!

- 1.) Find the **radius** of the circle below. Round to the nearest *tenth*.

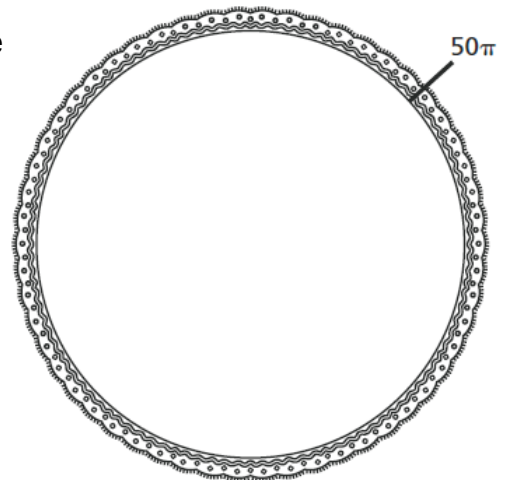


radius = _____

- 2.) The circumference of a circle is 14 meters. What is the **radius** of the circle? Round to the nearest *tenth*. Use 3.14 for π .

radius = _____

- 3.) Jordan sews a lace border 50π inches long around the edge of a circular table cloth. What is the length of the **radius** and **diameter** of the circular table cloth?



[not drawn to scale]

radius = _____ **diameter** = _____

circumference = $2\pi r$

Review It!

#4-7 Calculate the following.

- 4.) Given: radius (r) = 8 in, find the diameter (d) $d = \underline{\hspace{2cm}}$ in.
- 5.) Given: diameter (d) = 5.2 in, find the radius (r) $r = \underline{\hspace{2cm}}$ in.
- 6.) Given: radius (r) = 9.7in, find the diameter (d) $d = \underline{\hspace{2cm}}$ in.
- 7.) Given: diameter (d) = 2 in, find the radius (r) $r = \underline{\hspace{2cm}}$ in.
- 8.) Find the circumference of a circle whose diameter is 14 inches. Round your answer to the nearest hundredth. **Show your work.**

Flashback!

- 9.) Monica reads $7\frac{1}{2}$ pages of a mystery book in 9 minutes. What is her average reading rate in pages per minute? **Show your work.**