

## Warm-Up Grade 7



### Assessment Review

1) Find the answer and show work

a)  $12.1 + 6.23$

$$\begin{array}{r} \text{Est} \\ 12+6 \\ \hline 18 \end{array} \quad \left. \begin{array}{r} 12.10 \\ + 6.23 \\ \hline 18.33 \end{array} \right\}$$

b)  $5.67 \times 2$

$$\begin{array}{r} \text{Est} \\ 6 \times 2 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 5.67 \\ \times 2 \\ \hline 11.34 \end{array}$$

2) Calculate the circumference of each circle.

$$C = \pi d \quad \text{or} \quad C = 2\pi r$$

a)  $r = 4.2 \text{ m}$



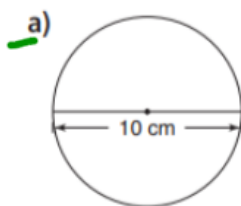
$$\begin{aligned} C &= 2\pi r \\ &= 2(3.14)(4.2\text{m}) \\ &= 26.4\text{m} \end{aligned}$$

b)  $d = 24 \text{ cm}$



$$\begin{aligned} C &= \pi d \\ &= (3.14)(24\text{cm}) \\ &= 75.36\text{cm} \end{aligned}$$

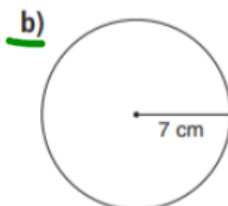
1. Calculate the circumference of each circle.  $\pi = 3.14$   
Give the answers to two decimal places.



$$C = \pi d$$

$$= 3.14 \times 10 \text{ cm}$$

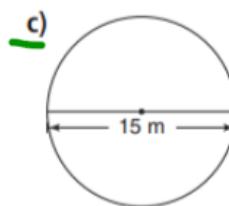
$$= 31.4 \text{ cm}$$



$$C = 2 \pi r$$

$$= 2 \times 3.14 \times 7 \text{ cm}$$

$$= 43.96 \text{ cm}$$



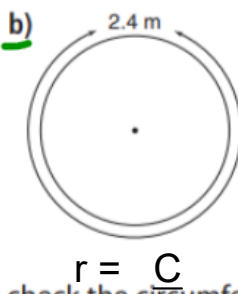
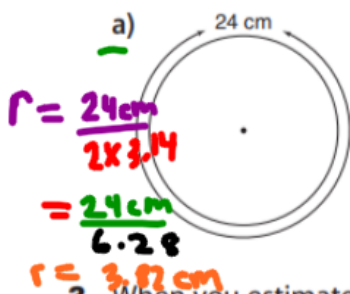
$$C = \pi d$$

$$= 3.14 \times 15 \text{ m}$$

$$= 47.25 \text{ cm}$$

$$d = \frac{C}{\pi} \Rightarrow \overset{d}{\div 2} \text{ to get radius}$$

2. Calculate the diameter and radius of each circle.  $C =$   
Give the answers to two decimal places.



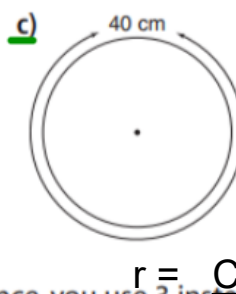
$$r = \frac{C}{2\pi}$$

$$r = \frac{2.4 \text{ m}}{2 \times 3.14}$$

$$r = \frac{2.4 \text{ m}}{6.28}$$

$$r = 0.38 \text{ m}$$

or  
38 cm



$$r = \frac{C}{2\pi}$$

$$r = \frac{40 \text{ cm}}{2 \times 3.14}$$

$$r = \frac{40 \text{ cm}}{6.28}$$

$$r = 6.37 \text{ cm}$$

4. A circular garden has diameter 2.4 m. C=!
- a) The garden is to be enclosed with plastic edging.  
How much edging is needed?
- b) The edging costs \$4.53/m.  
What is the cost to edge the garden?

$$C = \pi d$$

a)  $= 3.14 \times 2.4 \text{ m}$   
 $= 75.36 \text{ m}$

75.36m of edging is needed

b)  $75.36\text{m} \times \$4.53/\text{m} = \$341.38$   
 The cost of the edge is \$341.38.

5. a) Suppose you double the diameter of a circle.  
What happens to the circumference?
- b) Suppose you triple the diameter of a circle.  
What happens to the circumference?  
Show your work.

a)  $C = \pi d$   
 $= 3.14 \times 5 \text{ m}$   
 $= 15.7 \text{ m}$

d= 5 so if you double it d =10

$C = \pi d$   
 $= 3.14 \times 10 \text{ m}$   
 $= 31.4 \text{ m}$

if you double diameter then circumference doubles. Make sense since if you multiply one side by 2 then the other side doubles as well to keep equality/

- b) If you triple diameter then the circumference will triple.

6. A carpenter is making a circular tabletop with circumference 4.5 m.  $\Rightarrow 450\text{cm}$   
 What is the radius of the tabletop in centimetres?

Re

$$r = \frac{C}{2\pi}$$

$$2\pi$$

$$r = \frac{4.5 \text{ m}}{2 \times 3.14}$$

$$r = \frac{4.5 \text{ m}}{6.28}$$

$$r = 0.72 \text{ m}$$

or

$$72 \text{ cm}$$

OR

$$d = \frac{C}{\pi} = \frac{4.5 \text{ m}}{3.14}$$

$$d = 1.43 \text{ m}$$

$$r = \frac{d}{2} = \frac{1.43}{2}$$

$$r = 0.72 \text{ m}$$

$$\downarrow \times 100$$

$$72 \text{ cm}$$

The radius is 72 cm.

$$1 \text{ m} = 100 \text{ cm}$$

## Calculating Circumference of a Circle

$$C = \pi d$$

$$C = 2\pi r$$

When we know the radius or diameter of a circle, we can use one of the formulas above to find the circumference of a circle.

Circumference is a length, so its units are units of length such as m, cm, or mm.

Remember: 1 cm = 10 mm 1 m = 100 cm
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Calculate the circumference of a toonie.  
Use your calculators BUT show work.



Given  
 $r = 1.4 \text{ cm}$

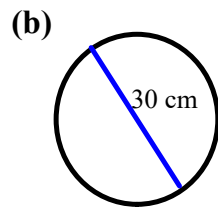
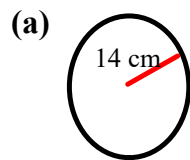
$C = ?$

$$\begin{aligned} C &= 2 \pi r \\ &= 2(3.14)(1.4 \text{ cm}) \\ &= 8.792 \text{ cm} \\ &\quad \downarrow \\ &\approx 8.8 \text{ cm} \end{aligned}$$


Find the circumference of a circle.


**Examples:**

**Find the circumference for each of the following:**




Circumference


  $C = \pi d$

  $C = 2\pi r$

Diameter

$d = 2r$  

or

  $d = \frac{C}{\pi}$

Radius

$r = \frac{d}{2}$



## Calculating Diameter or Radius of a Circle

$$d = \frac{C}{\pi}$$

$$r = \frac{C}{2\pi}$$

When we know the circumference of a circle, we can use one of the formulas above to find the diameter or radius of a circle.

Remember 1 km = 1000 m  
1 km = 100 000 cm

The circumference of each circle is given.

Calculate the diameter and radius. Give the answers to one decimal place.

a)  $d =$  \_\_\_\_\_

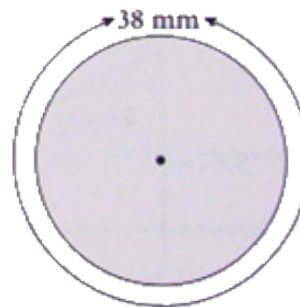
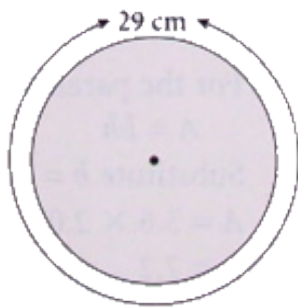
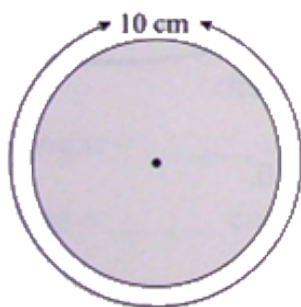
b)  $d =$  \_\_\_\_\_

c)  $d =$  \_\_\_\_\_

$r =$  \_\_\_\_\_

$r =$  \_\_\_\_\_

$r =$  \_\_\_\_\_



# *Class / Homework*

## Quiz on Thursday

### LESSON 4.2: Circumference of a Circle

1. A circle has diameter 10.5 cm.  
Calculate the circumference of the circle to the nearest millimetre.
2. A circle has radius 4.3 mm.  
Calculate the circumference of the circle to the nearest millimetre.
3. A circle has circumference 12.6 m.  
Calculate the diameter of the circle to the nearest centimetre.
4. ~~Describe two different ways to~~ find the circumference of a circle with radius 5 cm

$$2. \text{Cir} = 24\text{cm} \quad d = ?$$

$$\text{Cir} = \pi \times d$$

$$24 = 3.14 \times d$$

$$\frac{24}{3.14} = d$$

