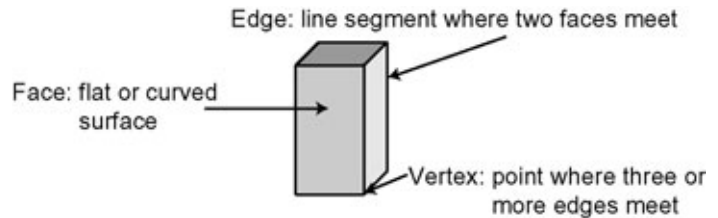





Three-Dimensional Objects

You can describe a three-dimensional (3-D) object by counting its **faces**, **edges**, and **vertices**.



1. Identify the name and the number of faces, edges, and vertices for each object.

Object	Name	Faces	Edges	Vertices
a) 				
b) 				
c) 				

Circles

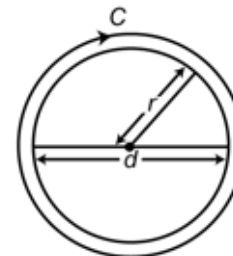
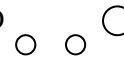
A **circle** is a set of points that are an equal distance away from a fixed point, called the centre.

The **radius** is the distance from the centre of a circle to the outside edge. The letter r is often used to represent the radius.

The **diameter** is the distance across a circle through its centre. The letter d is often used to represent the diameter.

The distance around a circle is called the **circumference**. The letter C is often used to represent the circumference.

The diameter is two times the radius: $d = 2r$.
The radius is half the diameter: $r = d \div 2$.



To find the circumference of a circle, use the formula $C = \pi \times d$ or $C = 2 \times \pi \times r$. Use 3.14 as an approximate value for π .

$$C = \pi \times d$$

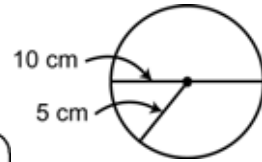
$$C \approx 3.14 \times 10$$

$$C \approx 31.4$$

$$C = 2 \times \pi \times r$$

$$C \approx 2 \times 3.14 \times 5$$

$$C \approx 31.4$$



The circumference is 31.4cm.

$$C = \pi \times d$$

$$C \approx 3 \times 10$$

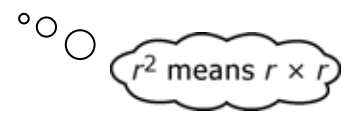
$$C \approx 30$$

The area, A , of a circle is the space the circle encloses. To find the area of a circle, use the formula $A = \pi \times r^2$ or $A = \pi r^2$

$$A = \pi \times r^2$$

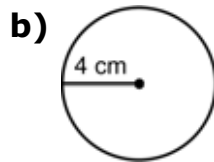
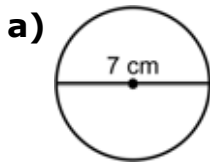
$$A \approx 3.14 \times 5 \times 5$$

$$A \approx 78.5$$

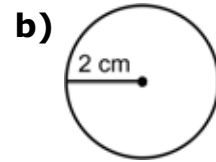
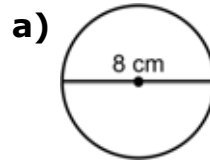


The area is 78.5 cm².

2. Find the circumference of each circle to the nearest tenth of a centimetre.



3. Find the area of each circle to the nearest tenth of a centimetre.

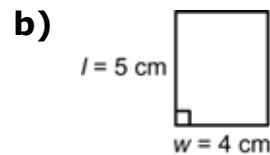
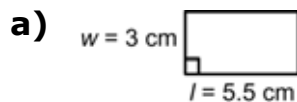


Area Formulas

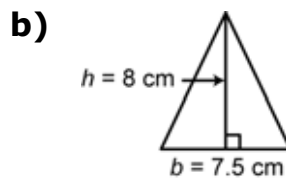
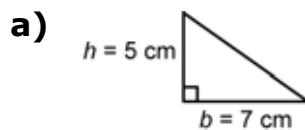
The **area** is the number of square units needed to cover a surface.

Use the formulas to calculate the area of these shapes to the nearest tenth of a centimetre.

4. **Rectangle:**
 $A = l \times w$



5. **Triangle:**
 $A = (b \times h) \div 2$



6. **Parallelogram:**
 $A = b \times h$

