

YOU ARE TO COPY THE NOTES, DRAW EACH FIGURE AND DO THE ACTIVITIES.

Parts of a circle

- Any line that touches two points on the circle is called a **chord**.
- Any line that touches two points on the circle and goes directly through the center is called a **diameter**.
- Any line that begins at the center and touches one point on the circle is the **radius**. The radius is one-half the length of the diameter.

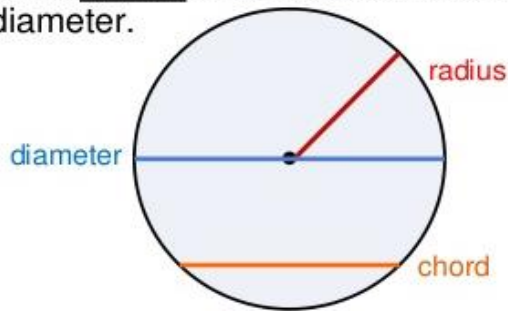


Figure 1.

Circumference

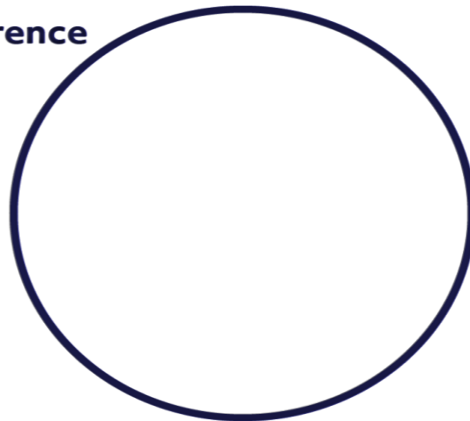


Figure 2.

The **perimeter** of a circle is called the circumference. **Perimeter:** - the sum of the distances around a closed shape.

Activity 1

Your Turn: Draw five circles and for each circle make up measurements for the diameters of the circles and thus state the radius measurement for each circle.

Here is an example:



NB: **d** is the short form for diameter and **r** is for radius

d = 80 mm **r** = 40 mm (half of the diameter)

Circumference of circle

The **perimeter** of a circle is called the circumference. **Perimeter:-** the sum of the distances around a closed shape.

To find the circumference of a circle, you use the formula: **C = 2 × π × r** or **π × d**

NB: **C** means circumference and **π** has a value of $\frac{22}{7}$ or 3.14 2

Example: Find the circumference of the circle below.



$$C = 2 \times \pi \times r \text{ (you can put the 2 over 1) } \text{ or } C = \pi \times d$$

$$C = \frac{2}{1} \times \frac{22}{7} \times 40 \text{ mm}$$

$$C = \frac{22}{7} \times 80 \text{ mm}$$

$$C = \frac{44 \times 40}{7} = \frac{1760}{7}$$

$$C = \frac{22 \times 80}{7} = \frac{1760}{7}$$

$$C = 251.429 \text{ (rounded to 3 dp)}$$

$$C = 251.429 \text{ (rounded to 3 dp)}$$

YOUR TURN: Activity 2: pg 37 Ex 4b # 1, 2 & 3

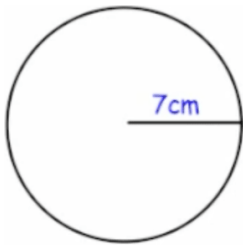
Area

Area is a measure of how much space there is on a flat surface. It's basically the size of a surface.

The area of a circle is calculated by using the formula: $A = \pi \times r^2$

Example

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



$$A = \pi \times r \times r$$

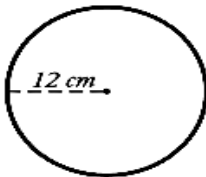
$$A = \frac{22}{7} \times 7 \times 7$$

$$A = 154 \text{ cm}^2 \text{ (your answer must be expressed in units squared)}$$

YOUR TURN: Activity 3 NB: The answers are in red. You are to show the workings as to how these areas are obtained

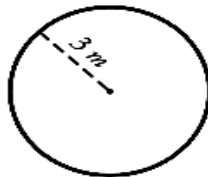
Find the area of each circle. Use 3.14 for pi.

a.



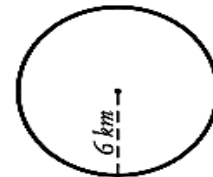
$$\underline{452.16 \text{ cm}^2}$$

b.



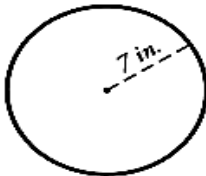
$$\underline{28.26 \text{ m}^2}$$

c.



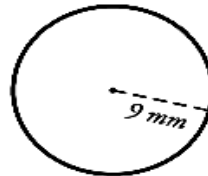
$$\underline{113.04 \text{ km}^2}$$

d.



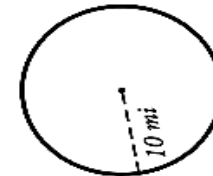
$$\underline{153.86 \text{ in.}^2}$$

e.



$$\underline{254.34 \text{ mm}^2}$$

f.

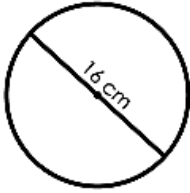


$$\underline{314 \text{ mi}^2}$$

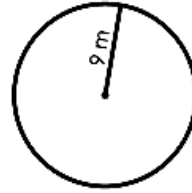
YOUR TURN: Activity 4

Find the area of each circle. Use 3.14 for pi. Show your work.

a.

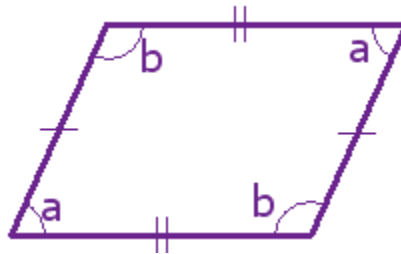


b.

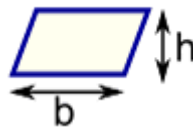


Area of Parallelogram

A Parallelogram is a flat shape with opposite sides parallel and equal in length.



Area of a Parallelogram



The Area is the **base times the height:**

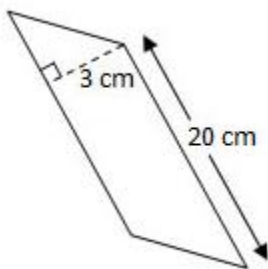
$$\text{Area} = b \times h$$

Example

$$A = b \times h$$

$$A = 20 \text{ cm} \times 3 \text{ cm}$$

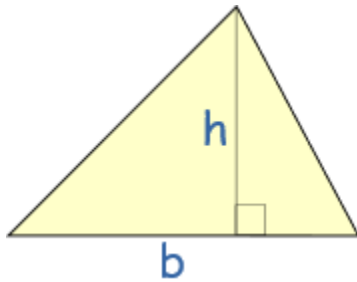
$$A = 60 \text{ cm}^2$$



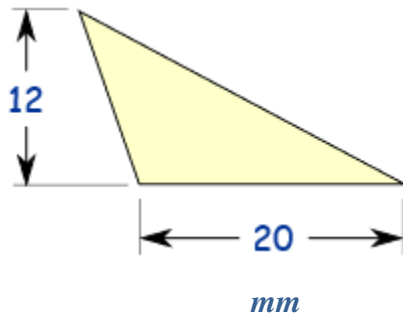
Area of Triangle

To calculate the area of a triangle the formula below is used:

$$\text{Area} = \frac{1}{2} \times b \times h \text{ or } \frac{b \times h}{2}$$



Example



(Note: 12 is the **height**, not the length of the left-hand side)

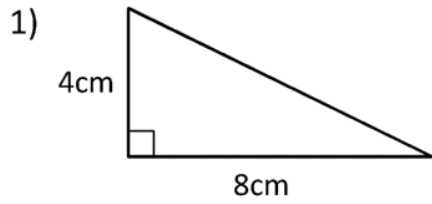
$$\text{Height} = h = 12 \text{ mm}$$

$$\text{Base} = b = 20 \text{ mm}$$

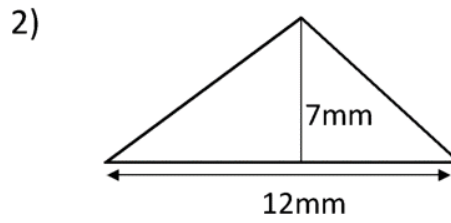
$$\text{Area} = \frac{1}{2} \times b \times h = \frac{1}{2} \times 20 \times 12 = \mathbf{120}$$

YOUR TURN: Activity 5 pg 40 Ex 4c # 1-16 ALL WORKINGS MUST BE SEEN

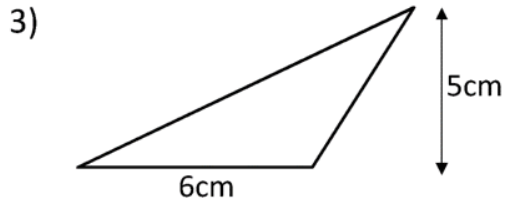
Activity 6: Find the area of the triangles given below. All workings must be shown.



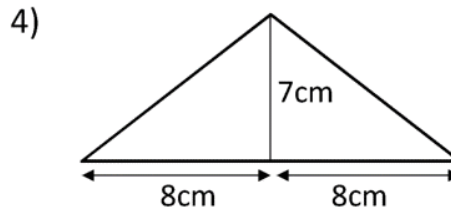
Area = _____ cm²



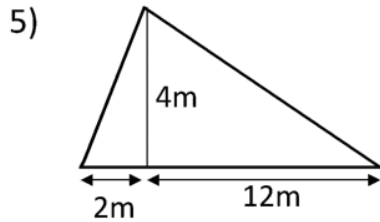
Area = _____



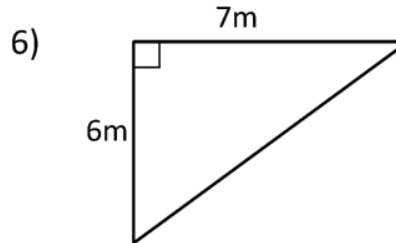
Area = _____



Area = _____



Area = _____



Area = _____

ALL WORK MUST BE COMPLETED AS THE WORK WILL BE DISCUSSED WHEN SCHOOL REOPENS