ODM EDUCATIONAL GROUP
Changing your Tomorrow

SESSION	**: 13**
CLASS	**: IV**
SUBJECT	**: MATHEMATICS**
CHAPTER NUMBER	**: 13**
CHAPTER NAME	**: GEOMETRY**
SUBTOPIC	**: RELATION BETWEEN DIAMETER AND RADIUS, EX-13 C**

LEARNING OBJECTIVE

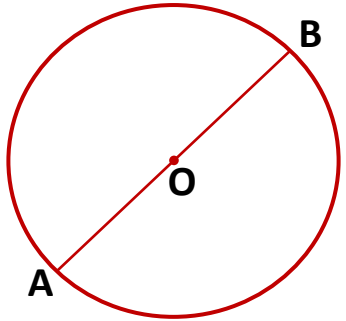
- **Enable the students to understand the relation in between the radius and diameter of circle.**

CIRCLE

Relation between diameter and radius

OA and **OB** are the **Radii** of the **circle**.

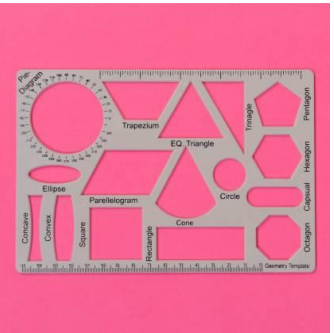
The straight line **AOB** is diameter.



$\therefore$ we can say that the diameter of a circle is twice its radius.

Diameter = 2 × Radius or Radius = $\frac{Diameter}{2}$

$D = 2 \times R$ or $R = \frac{D}{2}$



CIRCLE

EXAMPLE - 1

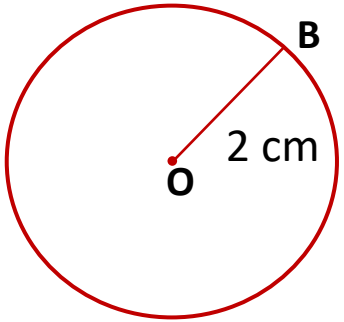
Find the diameter of the circle, if its radius is :

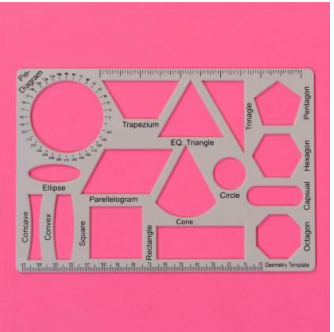
(a) 2 cm (b) 7 cm

(a) R = 2

Diameter = 2 × Radius = 2 × R

D = 2 × 2 = **4 cm**

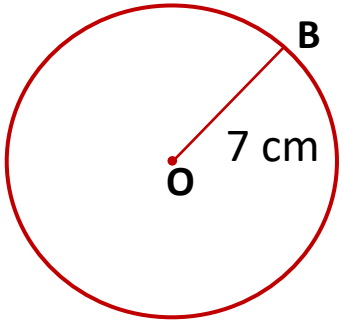




(b) R = 7

Diameter = 2 × Radius = 2 × R

D = 2 × 7 = **14 cm**



CIRCLE

EXAMPLE - 2

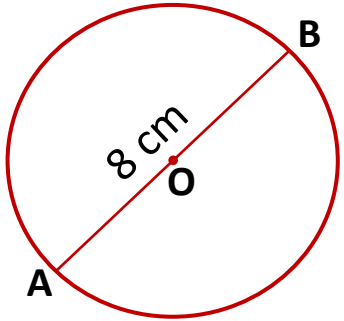
Find the radius of the circle, if its diameter is :

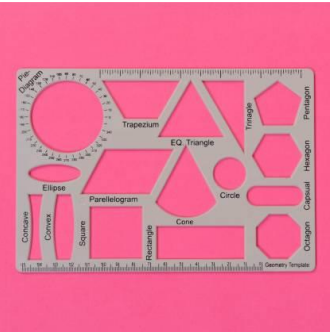
(a) 8 cm (b) 20 cm

(a) D = 8

Radius = $\frac{Diameter}{2}$

R = $\frac{8}{2}$ = **4 cm**

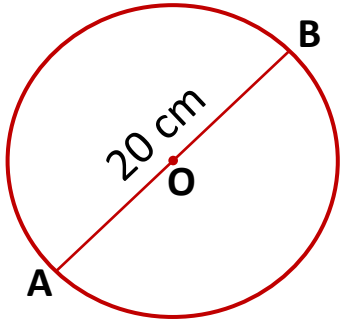




(b) D = 20

Radius = $\frac{Diameter}{2}$

R = $\frac{20}{2}$ = **10 cm**

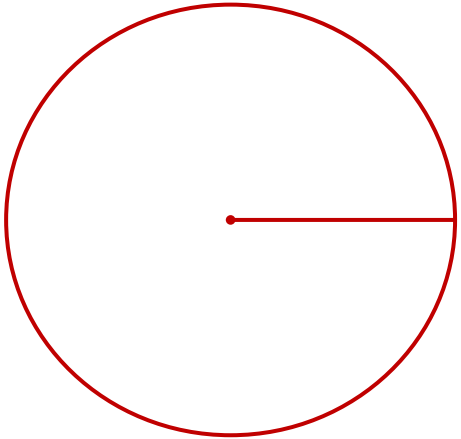


CIRCLE

EXERCISE – 13(C)

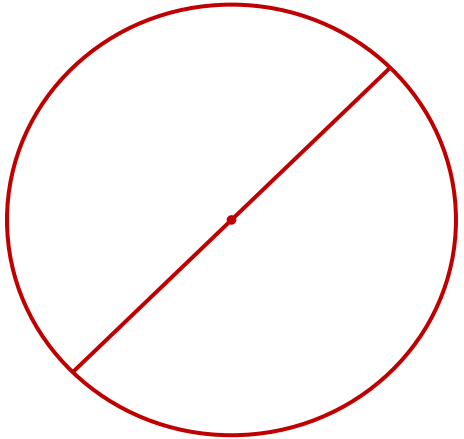
1. Draw the radius and the diameter in the following circle.

(a)

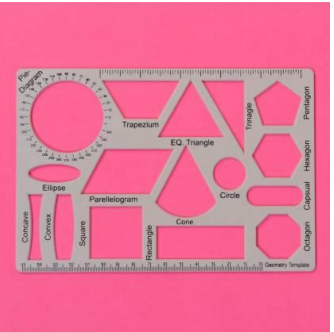


Radius

(b)



Diameter



CIRCLE

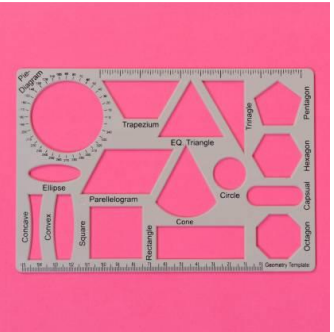
EXERCISE – 13(C)

2. Fill in the blanks.

(a) Diameter is **Twice** the radius of a circle.

(b) Radius of a circle is the distance from the **Centre** to the circumference of a circle.

(c) A circle has **no** sides.



(d) Diameter of the circle always passes through the **Centre**.

(e) Radius of a circle is half the **diameter** of the circle.

CIRCLE

EXERCISE – 13(C)

3. Find the radii of the circles whose diameters are given as follows :

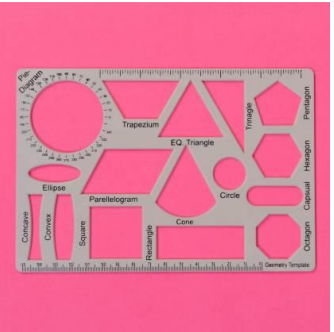
(a) 12 cm.

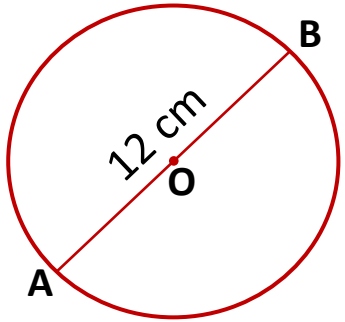
D = 12

Radius = $\frac{Diameter}{2}$

R = $\frac{12}{2}$ = **6 cm**

Radius = 6 cm





CIRCLE

EXERCISE – 13(C)

3. Find the radii of the circles whose diameters are given as follows :

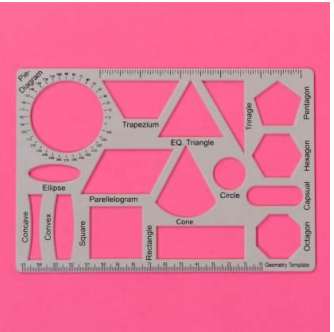
(b) 22 cm.

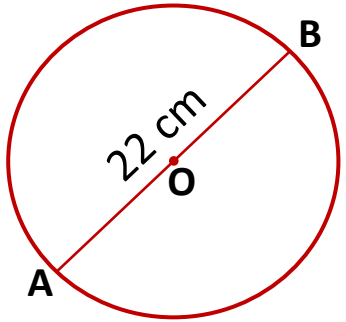
D = 22

Radius = $\frac{Diameter}{2}$

R = $\frac{22}{2}$ = **11 cm**

Radius = 11 cm





CIRCLE

EXERCISE – 13(C)

3. Find the radii of the circles whose diameters are given as follows :

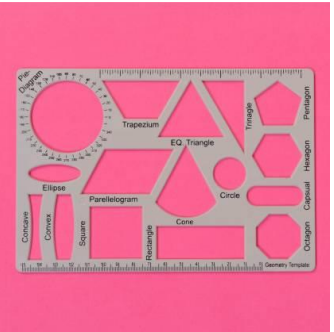
(c) 18 cm.

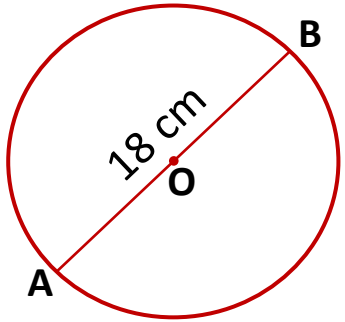
D = 18

Radius = $\frac{Diameter}{2}$

R = $\frac{18}{2}$ = **9 cm**

Radius = 9 cm





CIRCLE

EXERCISE – 13(C)

3. Find the radii of the circles whose diameters are given as follows :

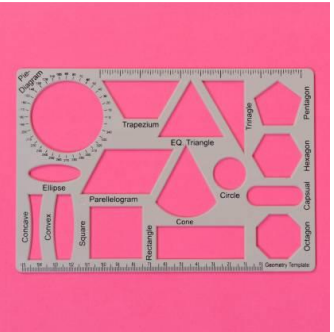
(d) 24 cm.

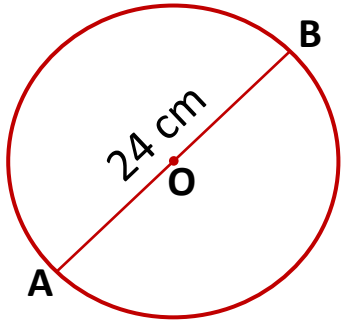
D = 24

Radius = $\frac{Diameter}{2}$

R = $\frac{24}{2}$ = **12 cm**

Radius = 12 cm





CIRCLE

EXERCISE – 13(C)

3. Find the radii of the circles whose diameters are given as follows :

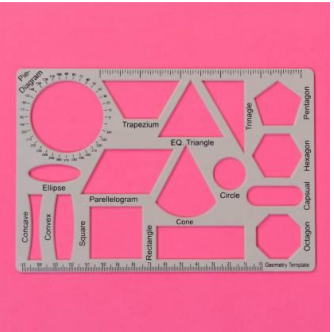
(e) 30 cm.

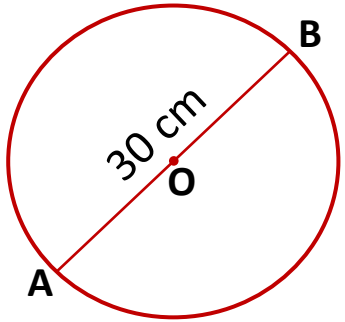
D = 30

Radius = $\frac{Diameter}{2}$

R = $\frac{30}{2}$ = **15 cm**

Radius = 15 cm





CIRCLE

EXERCISE – 13(C)

4. Find the diameter of the circles whose radii are given as follows :

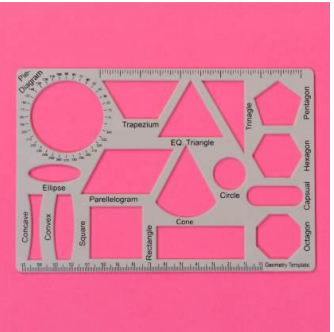
(a) 15 cm.

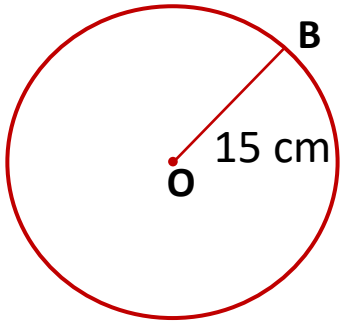
R = 15

Diameter = 2 × Radius = 2 × R

D = 2 × 15 = **30 cm**

Diameter = 30 cm





CIRCLE

EXERCISE – 13(C)

4. Find the diameter of the circles whose radii are given as follows :

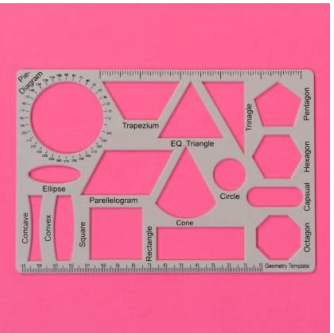
(b) 11 cm.

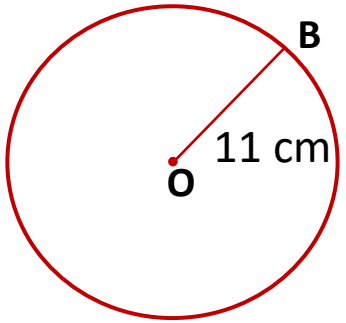
R = 11

Diameter = 2 × Radius = 2 × R

D = 2 × 11 = **22 cm**

Diameter = 22 cm





CIRCLE

EXERCISE – 13(C)

4. Find the diameter of the circles whose radii are given as follows :

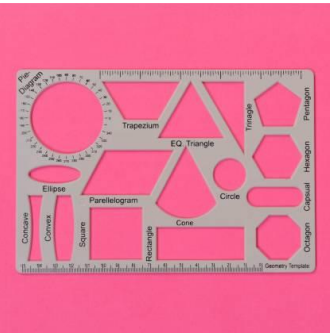
(c) 21 cm.

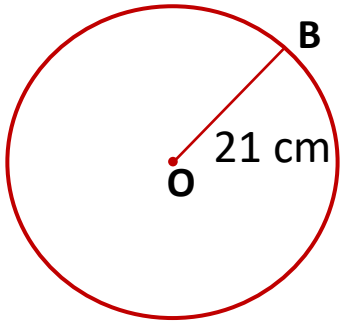
R = 21

Diameter = 2 × Radius = 2 × R

D = 2 × 21 = **42 cm**

Diameter = 42 cm





CIRCLE

EXERCISE – 13(C)

4. Find the diameter of the circles whose radii are given as follows :

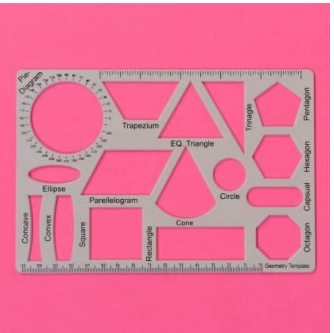
(d) 9 cm.

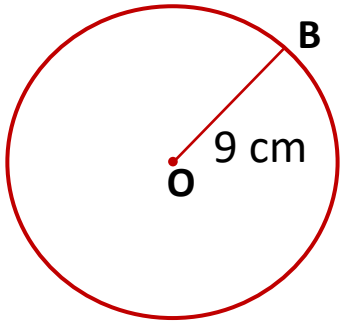
R = 9

Diameter = 2 × Radius = 2 × R

D = 2 × 9 = **18 cm**

Diameter = 18 cm





CIRCLE

EXERCISE – 13(C)

4. Find the diameter of the circles whose radii are given as follows :

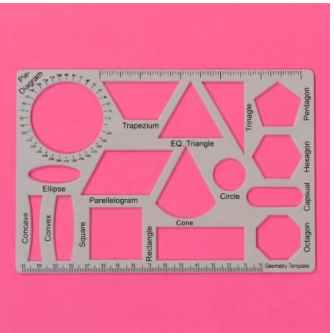
(e) 25 cm.

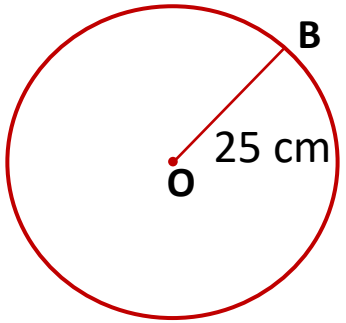
R = 25

Diameter = 2 × Radius = 2 × R

D = 2 × 25 = **50 cm**

Diameter = 50 cm





HOME ASSIGNMENT:

- **Complete Exercise – 13 C in your note book.**

LEARNING OUTCOME:

Students are able to understand the relation in between the radius and diameter of circle.

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