

AREAS RELATED TO CIRCLES

Activity – 12

1. What we have to do?

To derive the formula for the area of circle equal to half the product of its circumference and radius.

2. What is required?

Coloured paper, geometry box, colour pens, pair of scissors, glue stick

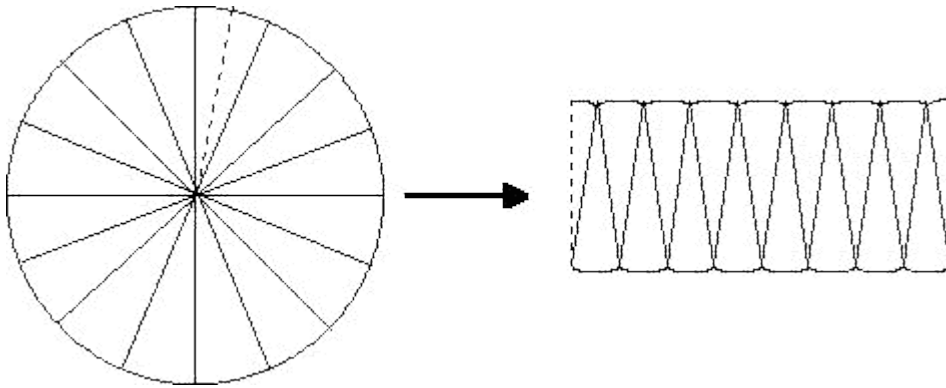
3. Time required: 30 min

4. What do we need to know?

Formula for the circumference of a circle, formula for the area of a rectangle.

5. How will you proceed?

- 1) Draw a circle of radius $r = 4$ cm (say) on the paper.
- 2) Divide the circle into 16 equal parts by folding into half each time.
- 3) Cut all the 16 parts and arrange them as shown in the figure below
- 4) Take any part from any side and further divide it into 2 parts.
- 5) To complete the shape of rectangle arrange these two smaller parts at the corners of the shape obtained in step above.
- 6) Find the length and the breadth of the rectangle so formed.
- 7) Find the area of the rectangle.



6. What we have you observed?

The area of rectangle = _____

7. What have you learnt?

8. What would you be interested in doing?

Repeat the above activity with $r = 8$ cm and verify the result.

Real Life Applications

The above concept is useful in different fields such as Painting, Designing, Food industry, Architecture, Monuments, Textile industry etc...
