

Learning for Life.

Measurement

m64w1

Substrand: Indirect Measurement

Write a convincing explanation of how you solved the problem. Remember to show clearly all the mathematics used. The answer alone is not enough!

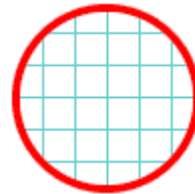
Areas of Circles

The area of a circle is the number of square units inside that circle. If each square in the circle to the right has an area of 1 cm^2 , you could count the total number of squares to get the area of this circle. If there were a total of 28.26 squares, the area of this circle would be 28.26 cm^2 . However, it is easier to use the following formula:

$$A = \pi \cdot R \cdot R \quad \text{or}$$

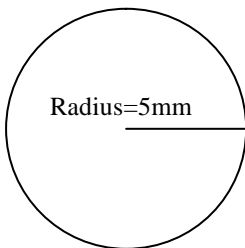
$$A = \pi \cdot R^2$$

where A is the area, and R is the radius.



For example

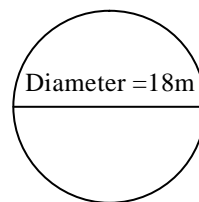
Find the area of the circles below



$$A = \pi r^2$$

$$= \pi \times 5 \times 5$$

$$= 78.5 \text{ mm}^2$$



If $D = 18 \text{ m}$ then $r = 9 \text{ m}$

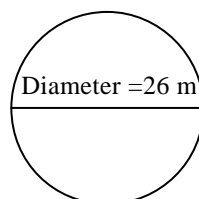
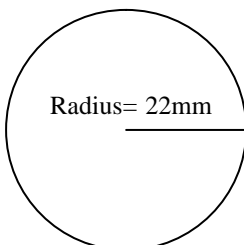
$$A = \pi r^2$$

$$= \pi \times 9 \times 9$$

$$= 254.3 \text{ m}^2$$

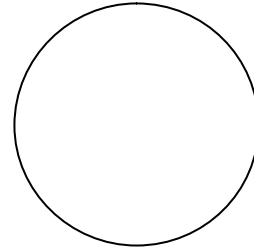
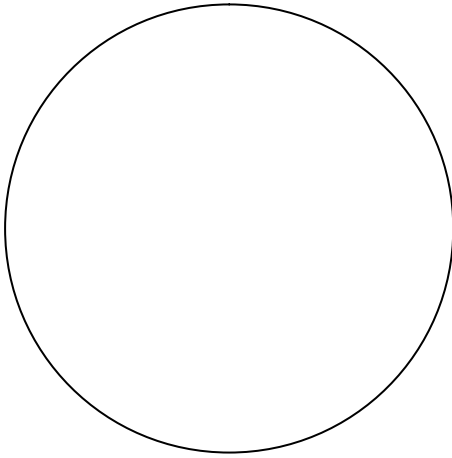
Task

Find the area of the following circles

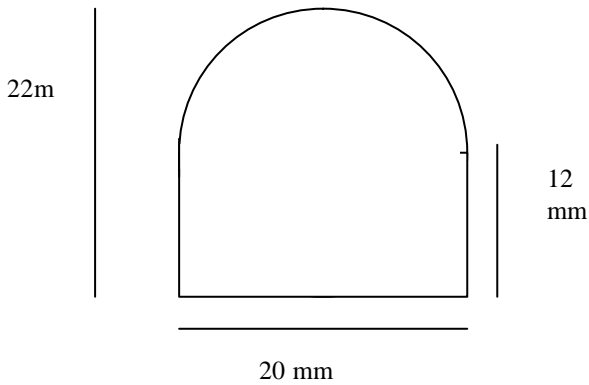


Find the area of the following circles .

- use a 1cm^2 grid to first estimate the area.
- Use the appropriate formula to obtain a more accurate answer.



Find the perimeter and area of the following shapes.



Reflection:

- Write down some of the difficulties that you had to overcome to solve this problem.
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