



GRADE 8 - LESSON 3

**SCIENTIFIC NOTATION.
CIRCUMFERENCE AND AREA
OF A CIRCLE.
VOLUME OF A CYLINDER.**

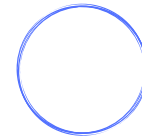
SCIENTIFIC NOTATION

Any number can be recorded in its expanded form, which can then be expressed using a scientific notation

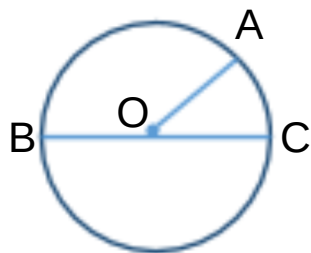
$$1 \text{ million} = 10^6$$

$$1 \text{ billion} = 10^9$$

CIRCUMFERENCE OF A CIRCLE



Grab a round glass, flip it and trace its edge on a piece of paper. Then use a string a wrap around the same edge, cut the string. Place the string along the traced circle - they should overlap! This length is called a **circumference**.

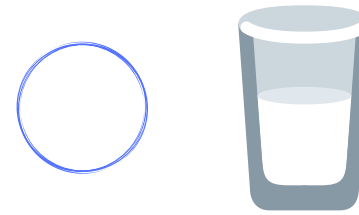


O is the center of a circle.

OA, OB, OC is the radii (singular: radius) of a circle.

BC is the diameter of a circle.

CIRCUMFERENCE OF A CIRCLE



The circumference of a circle is directly proportional to the length of its diameter.

For all circles the relationship between its circumference and the length of its diameter is the same number π (Pi)

If we label the circumference with a letter C and the diameter with a letter d, then $C/d = \pi$, which is always equal to ~ (approximately) 3.14

CIRCUMFERENCE OF A CIRCLE

Is calculated using the formula:
 $C = \pi d$, where $d = 2r$ (double
the radius)

Determine the circumference of a circle when $r = 10$ cm

AREA OF A CIRCLE

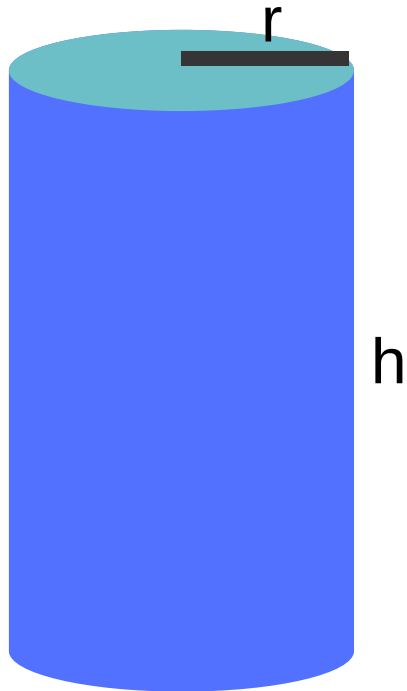
The area of a circle is the inner part of a circle, limited by its circumference.

The area of a circle with the radius r is calculated using the formula:

$$A = \pi r^2$$

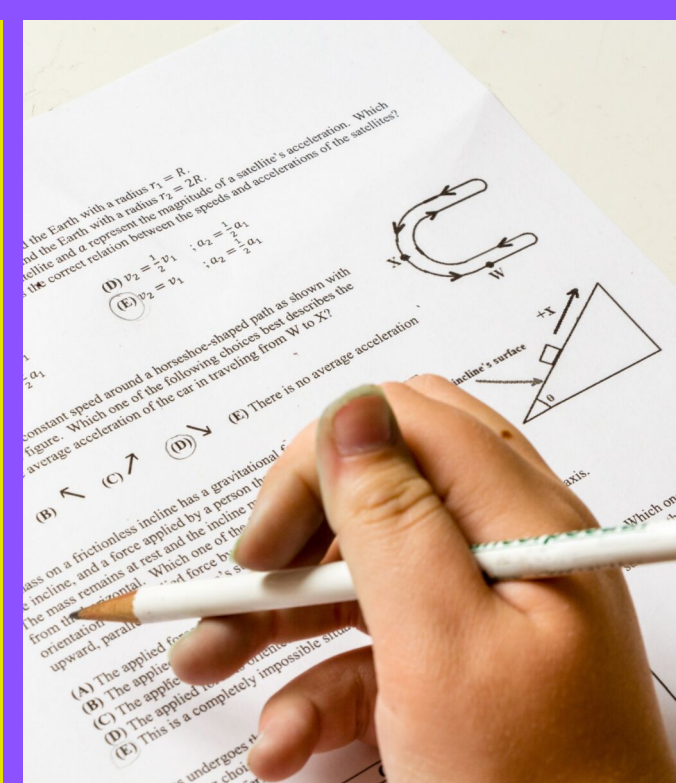
VOLUME OF A CYLINDER

A cylinder is a 3D object with two circular bases and one curved rectangular side.



Volume of a cylinder could be found using the formula:

$$V = \pi r^2 h$$



**PLEASE CONTINUE TO
GRADE 8 LESSON 4!**

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