

## TRANSFER EXAM FORMULAE

### AREA

Area of Square = length x width (side x side)

Area of Rectangle = length x width

Area of Parallelogram = base x perpendicular height

Area of Triangle =  $\frac{1}{2}$  x base x perpendicular height or  $\frac{\text{base} \times \text{height}}{2}$

Area of Trapezium =  $\frac{\text{height}}{2} (a + b)$  or  $\frac{(a + b) \times \text{height}}{2}$

Area of Rhombus / Dart / Kite =  $\frac{\text{width} \times \text{height}}{2}$  or  $\frac{\text{diagonal} \times \text{diagonal}}{2}$

Area of Circle =  $\pi r^2$  Area of Semi-Circle =  $\frac{\pi r^2}{2}$

### LENGTHS

Circumference of Circle =  $2\pi r$  or  $\pi d$

Pythagoras:  $h^2 = a^2 + b^2$  ;  $a^2 = h^2 - b^2$  ;  $b^2 = h^2 - a^2$

### SURFACE AREA

Surface Area of Cube =  $6s^2$  (6 x side x side)

Surface Area of Cuboid =  $2(\text{length} \times \text{width}) + 2(\text{width} \times \text{height}) + 2(\text{length} \times \text{height})$

Curved Surface Area of a Cylinder =  $2\pi rh$

Total Surface Area of a Cylinder =  $2\pi rh + 2\pi r^2$  or  $2\pi r(r+h)$

### VOLUME

Volume of Cube =  $s^3$  (side x side x side)

Volume of Cuboid = length x width x height

Volume of Prism = Area of cross-section x perpendicular length

or Area of base x height

Volume of Cylinder =  $\pi r^2 h$

## SPEED, DISTANCE AND TIME

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

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$$\text{Distance} = \text{Speed} \times \text{Time}$$

$$\text{Average Speed} = \frac{\text{Total Distance}}{\text{Total Time}}$$

## ANGLES IN REGULAR POLYGONS

$$\text{Exterior angle} = \frac{360^\circ}{\text{number of sides}}$$

$$\text{Interior angle} = 180^\circ - \frac{360^\circ}{\text{number of sides}}$$

or  $180^\circ - \text{exterior angle}$

Sum of the Interior angles of a polygon (both regular and irregular) =  $180(n - 2)$

## UNITS AND CONVERSIONS

Length: 1 cm = 10 mm ; 1 m = 100 cm ; 1 km = 1000 m  
1 km = 100,000 cm.

Mass: 1 g = 1000 mg ; 1 kg = 1000 g ; 1 tonne = 1000 kg

Capacity: 1 litre = 100 cl ; 1 cl = 10 ml , 1 litre = 1000 ml.  
1 litre = 1000 cm<sup>3</sup> ; 1 m<sup>3</sup> = 1000 litres.

Area: 1 m<sup>2</sup> = 10,000 cm<sup>2</sup> ; 1 km<sup>2</sup> = 100 ha ; 1 ha = 10,000 m<sup>2</sup> ;

Volume: 1 m<sup>3</sup> = 1,000,000 cm<sup>3</sup> ; 1 cm<sup>3</sup> = 1,000 mm<sup>3</sup>

## MEAN, MODE, MEDIAN AND RANGE

Mean: of a set of data is found by adding together all the values of the data and dividing by the number of values.

$$\text{MEAN} = \frac{\text{Sum (total) of values}}{\text{Number of values}}$$

Mode: of a set of data is the value which occurs most often.

Median: is the middle value when the data is arranged in order of size.

Range: of a set of data is the difference between the largest and smallest values

## ORDER OF OPERATIONS

Brackets

Indices

Division

Multiplication

Addition

Subtraction