



Rosary School \ Marj Elhamam

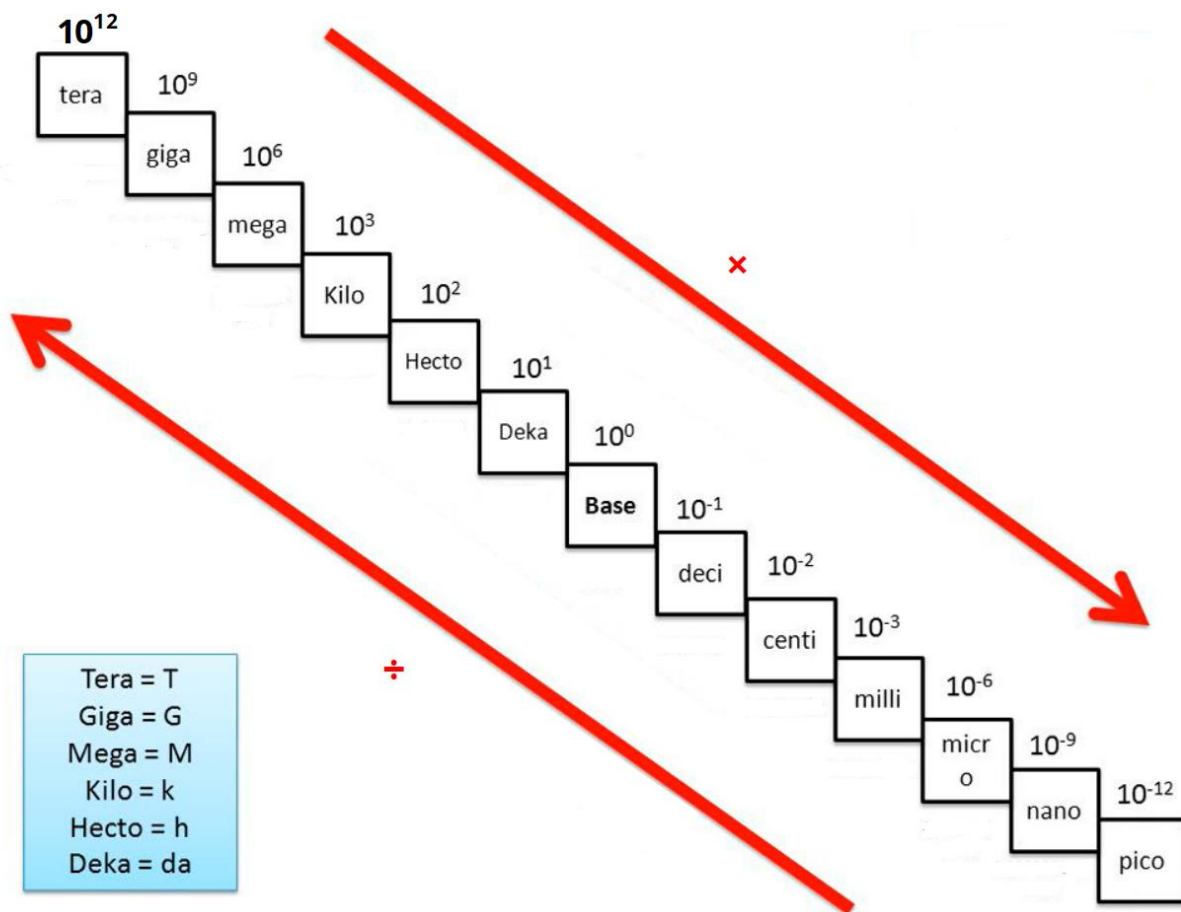
Name :

Date : / 8 / 2025

Subject: **Math Study sheet (1)**

Grade : 8 ()

Metric unit conversion ladder



Deci = d

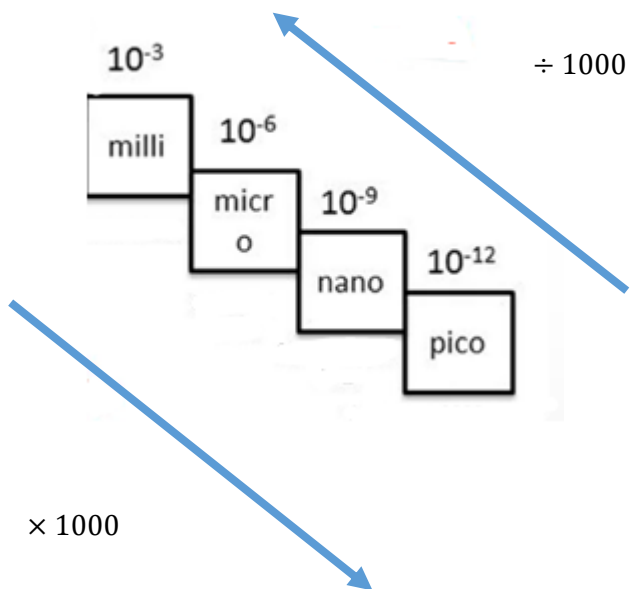
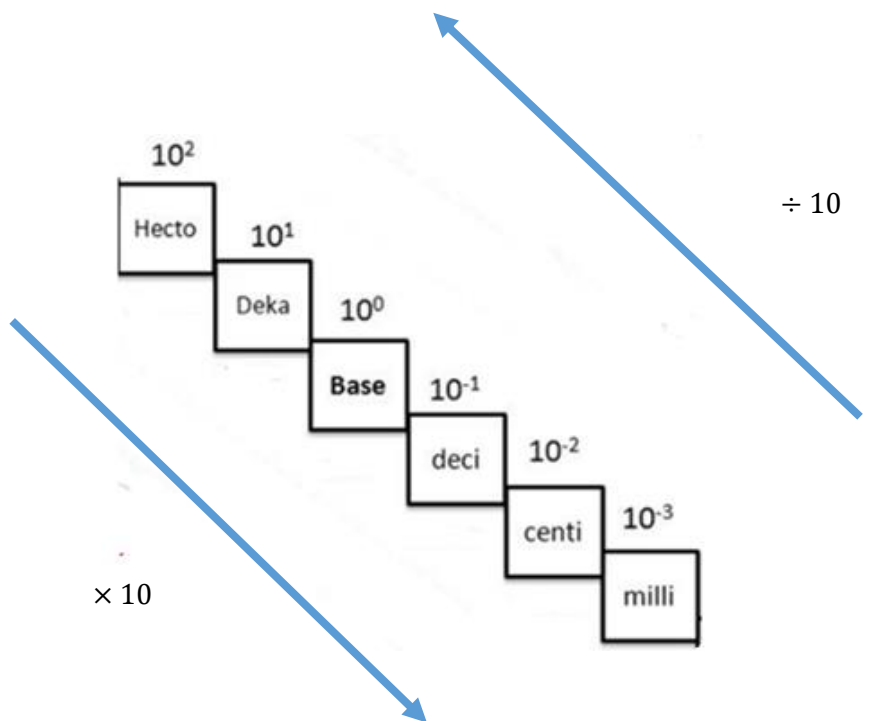
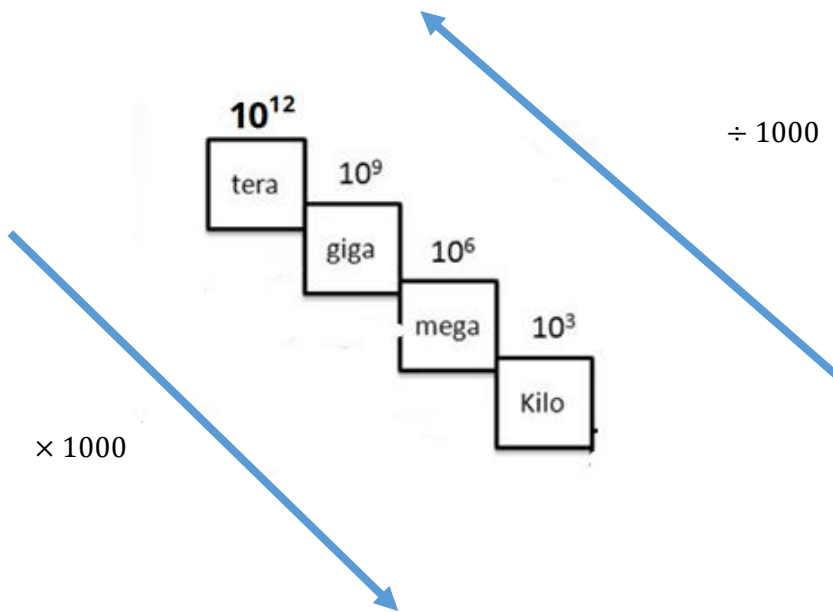
Centi = c

Milli = m

Micro = μ

Nano = n

Tera = T
Giga = G
Mega = M
Kilo = k
Hecto = h
Deka = da





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Name :

Date : / 9 / 2025

Subject: **Math Study sheet (2)**

Grade : 8 ()

Significant figures (s.f.)

s.f. Rules:

- All non-zero digits are significant: (1, 2, 3, 4, 5, 6, 7, 8, and 9)
 - **124.53** (5 s.f.)
 - **33** (2 s.f.)

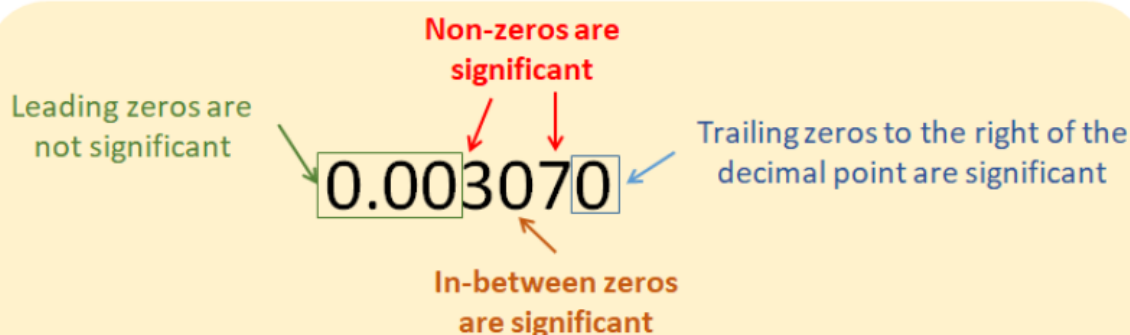
- **Zeros are significant when:**
 - ✓ they are in between non-zero digits:
 - **4002** (4 s.f.)
 - **101** (3 s.f.)

 - ✓ they are at the end of a number with a decimal point
 - **3.40** (3 s.f.)
 - **35.0** (3 s.f.)
 - **34.000** (5 s.f.)

- **Zeros are not significant when:**
 - ✓ they are at the beginning of a number (leading zeros)
 - **0.03043** (4 s.f.)
 - **0.10** (2 s.f.)

 - ✓ They are at the end of a number without decimal point
 - **200** (1 s.f.)
 - **25,000** (2 s.f.)

Significant Figures



Example:

0.002060 has 4 significant figures

4108.0 has 5 significant figures

70900 has 3 significant figures

Laws of Indices

Laws of indices provide us with rules for simplifying calculations or expressions involving powers of the same base. They are:

$$a^m \times a^n = a^{m+n}$$

$$a^m \div a^n = a^{m-n}$$

$$a^0 = 1$$

$$(a^m)^n = a^{m \times n} = a^{mn}$$

$$a^{-m} = \frac{1}{a^m}$$

Teacher : Sally Serkisian



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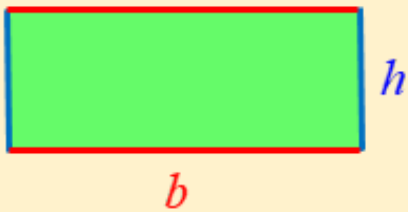
Subject: Math study sheet (3)

Grade : 8 ()

❖ Area and perimeter

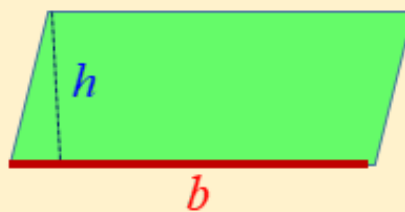
Area

rectangle



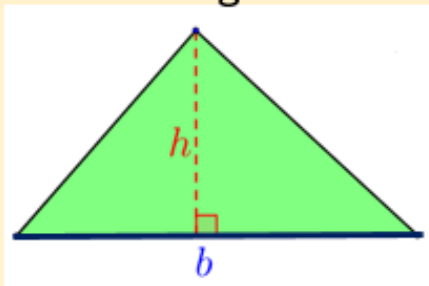
$$A = bh$$

parallelogram



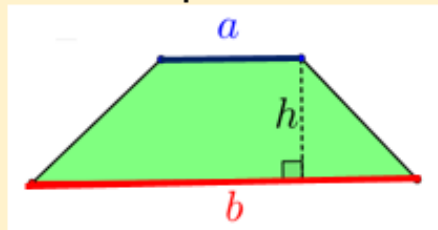
$$A = bh$$

triangle



$$A = \frac{1}{2}bh$$

trapezoid



$$A = \frac{1}{2}(a + b)h$$

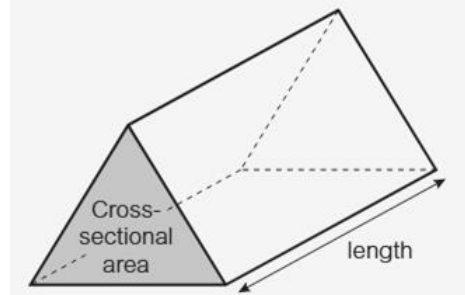
Perimeter = Total sum of all sides.

❖ Surface area and volume

Prism: -

Surface area= total area of all its faces

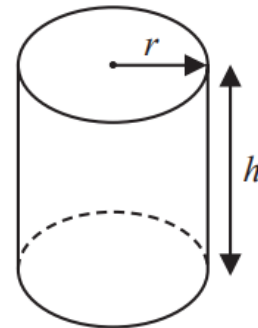
Volume = area of cross section \times length



Cylinder: -

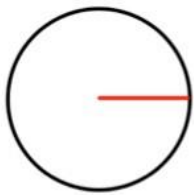
Surface area = $2\pi r^2 + 2\pi rh$

Volume = $\pi r^2 h$

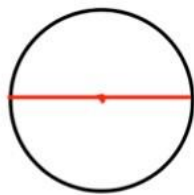


❖ Parts of a circle

Parts of a Circle



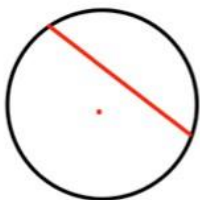
Radius



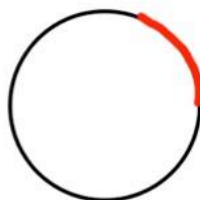
Diameter



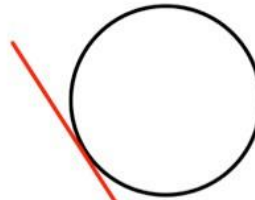
Circumference



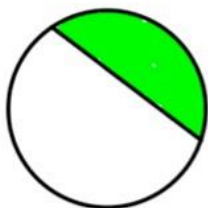
Chord



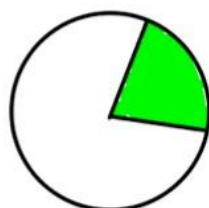
Arc



Tangent

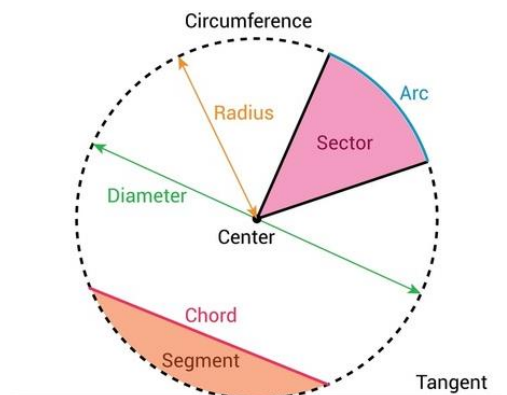


Segment



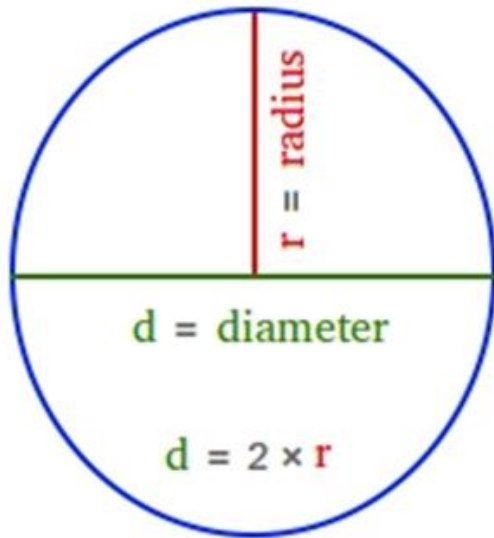
Sector

Parts of a Circle



❖ Area and circumference of a circle

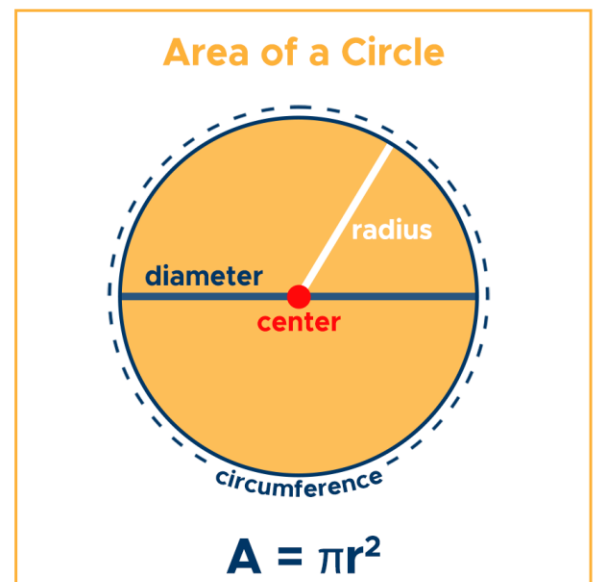
C = circumference



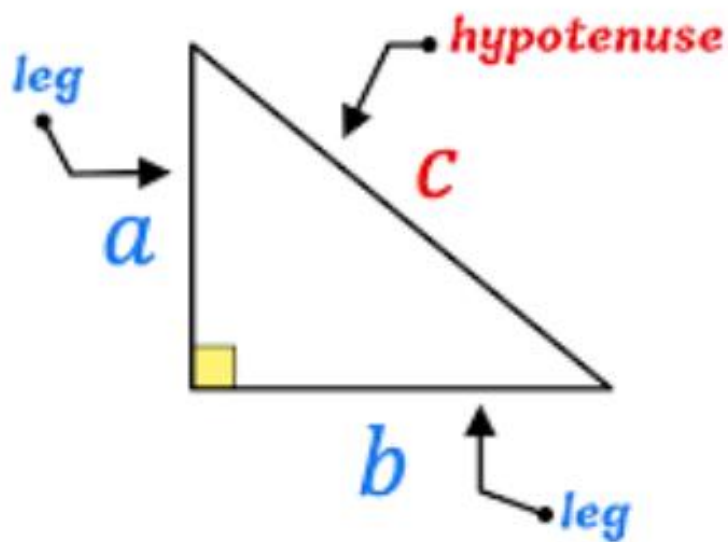
$$C = \pi \times d \quad \text{or} \quad C = 2 \times \pi \times r$$

$$\pi = 3.14$$

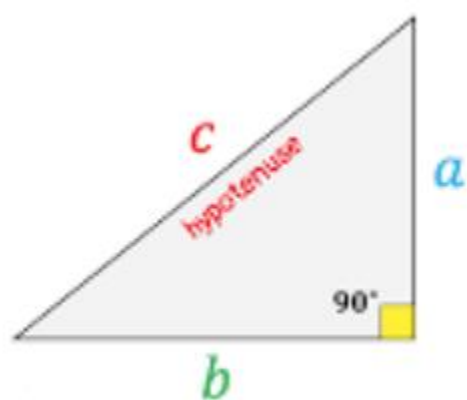
$$\pi = \frac{22}{7} \quad \text{or} \quad \pi \text{ on your calculator}$$



❖ Pythagoras theorem



$$a^2 + b^2 = c^2$$



$$c^2 = a^2 + b^2$$

$$\star c = \sqrt{a^2 + b^2}$$

$$\star a = \sqrt{c^2 - b^2}$$

$$\star b = \sqrt{c^2 - a^2}$$



Teacher : Sally Serkisian