



Rosary School \ Marj Elhamam

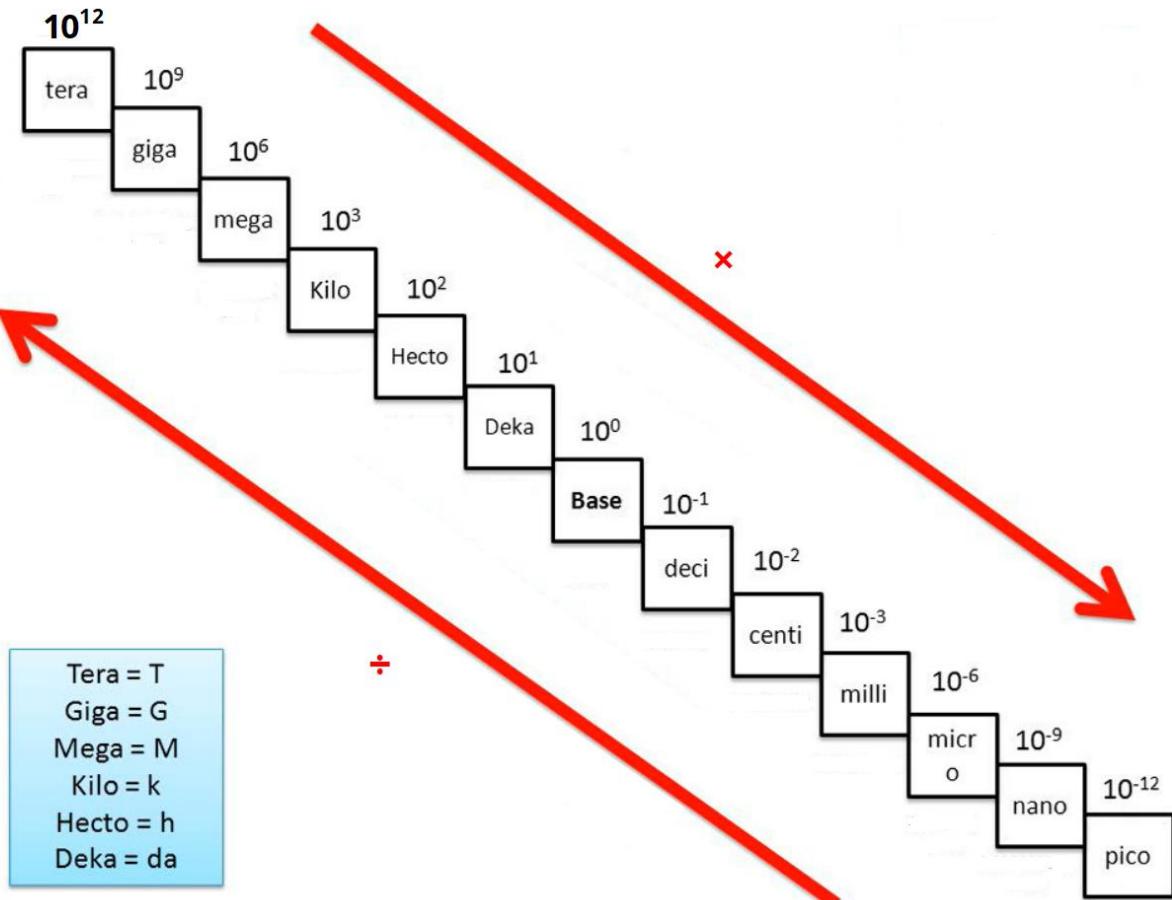
Name : .....

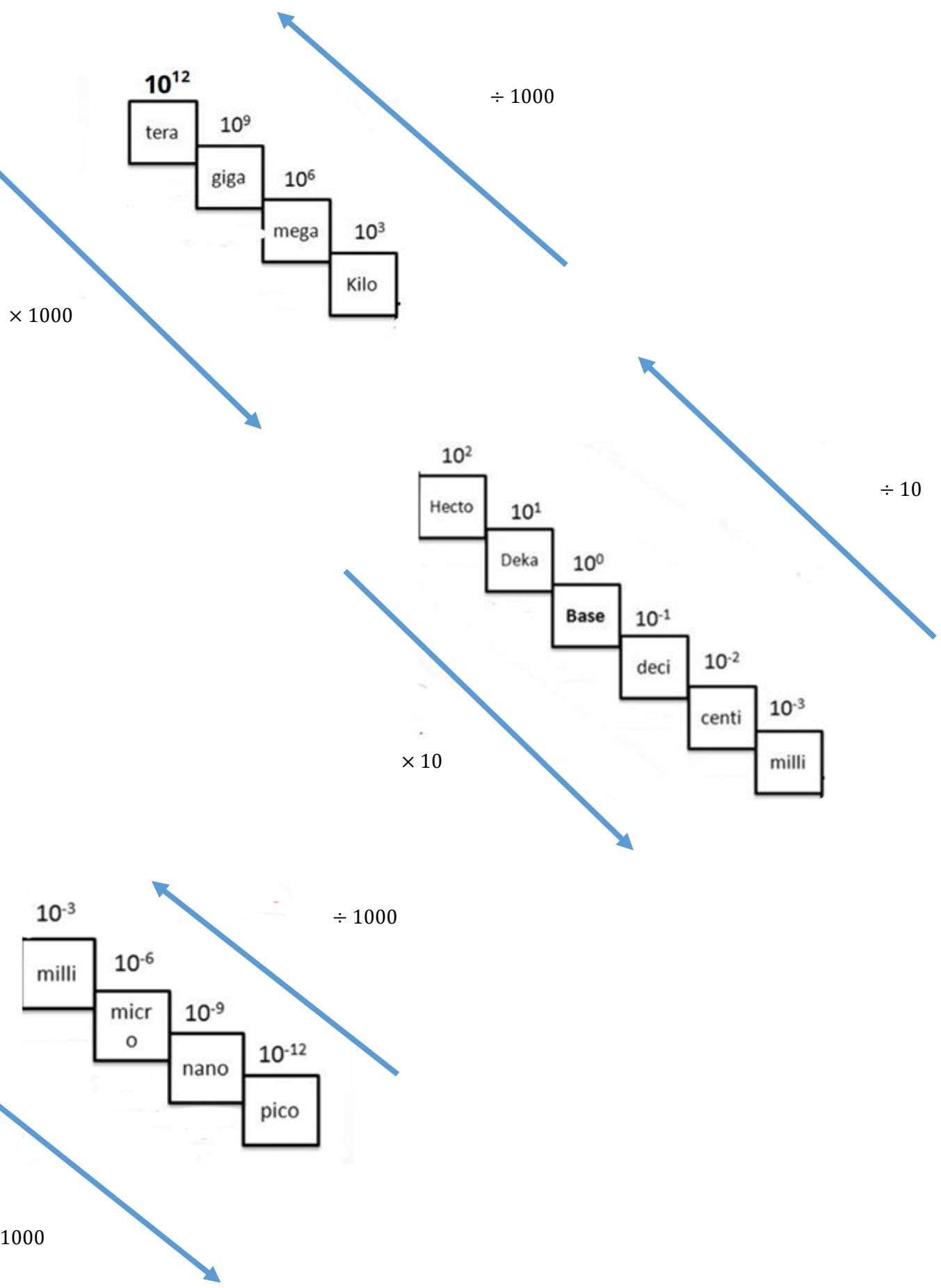
Date : / 8 / 2025

Subject: Math Study sheet (1)

Grade : 8 ( )

## Metric unit conversion ladder







## Rosary School \ Marj Elhamam

Name : .....

Date : / 9 / 2025

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

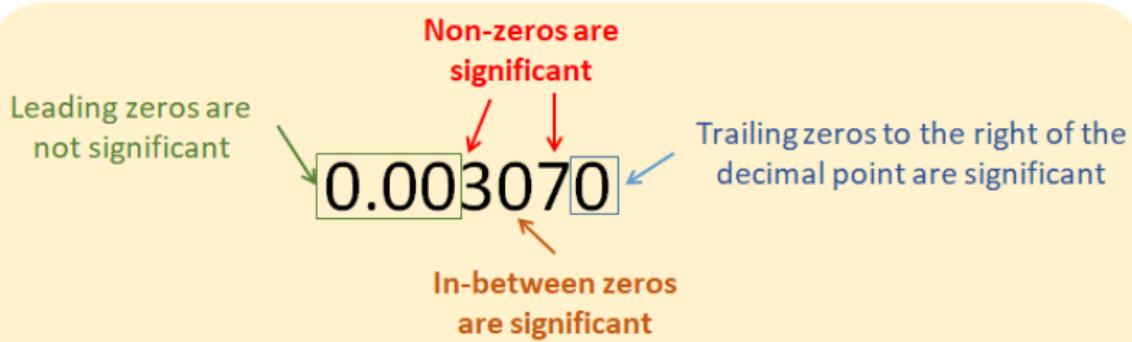
Grade : 8 ( )

### 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:

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

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

$$a^0 = 1$$

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

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

Teacher : Sally Serkisian



## Rosary School \ Marj Elhamam

Name : \_\_\_\_\_

Date :    / 9 / 2025

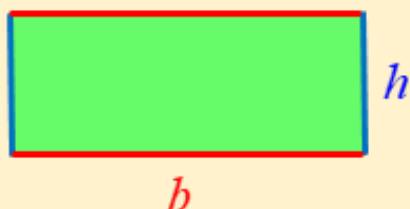
Subject: Math study sheet (3)

Grade : 8 (      )

### ❖ Area and perimeter

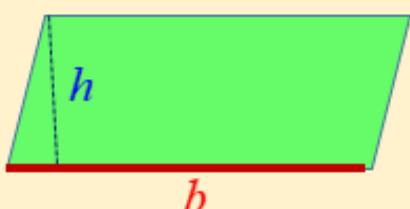
#### Area

rectangle



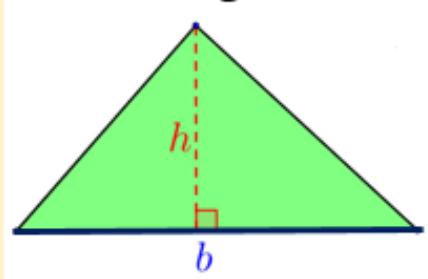
$$A = b \cdot h$$

parallelogram



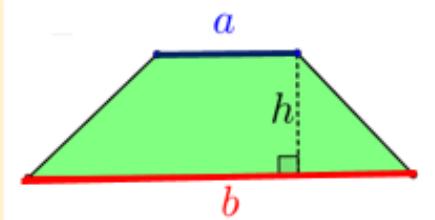
$$A = b \cdot h$$

triangle



$$A = \frac{1}{2} b \cdot h$$

trapezoid



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

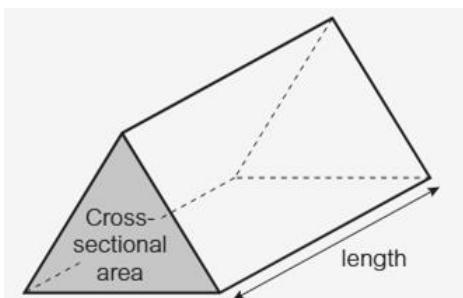
**Perimeter = Total sum of all sides.**

## ❖ Surface area and volume

## Prism: -

Surface area= total area of all its faces

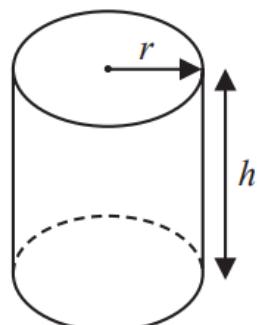
Volume = area of cross section  $\times$  length



## **Cylinder: -**

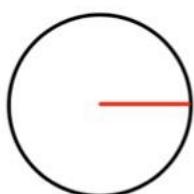
$$\text{Surface area} = 2\pi r^2 + 2\pi r h$$

$$\text{Volume} = \pi r^2 h$$

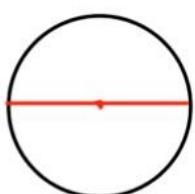


## ❖ Parts of a circle

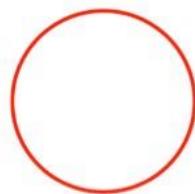
## Parts of a Circle



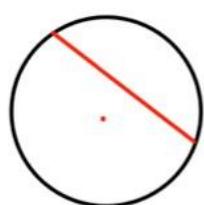
## Radius



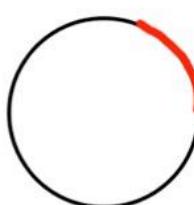
## Diameter



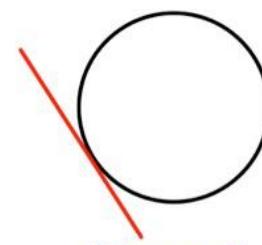
## Circumference



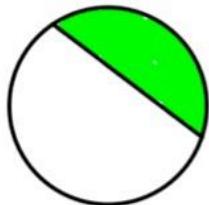
## Chord



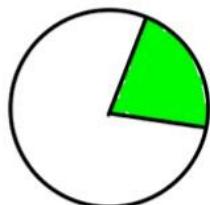
Arc



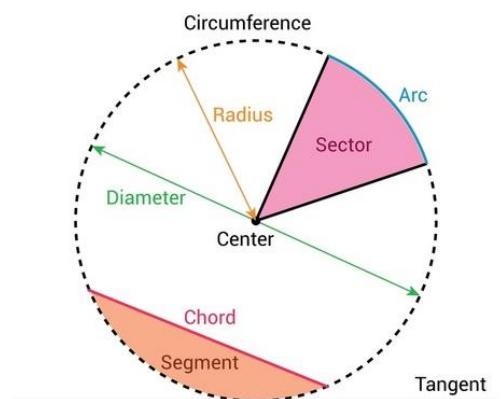
## Parts of a Circle



## Segment

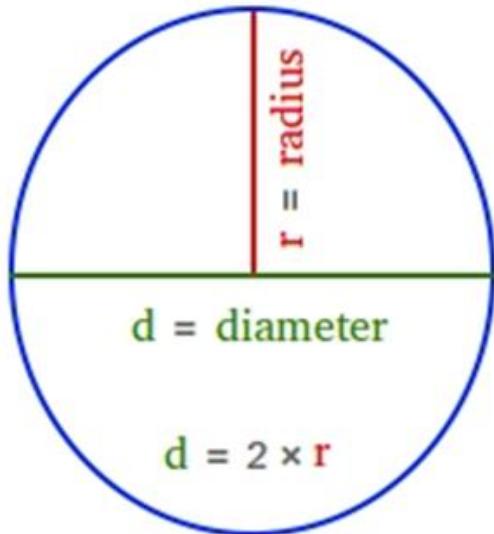


## Sector



❖ Area and circumference of a circle

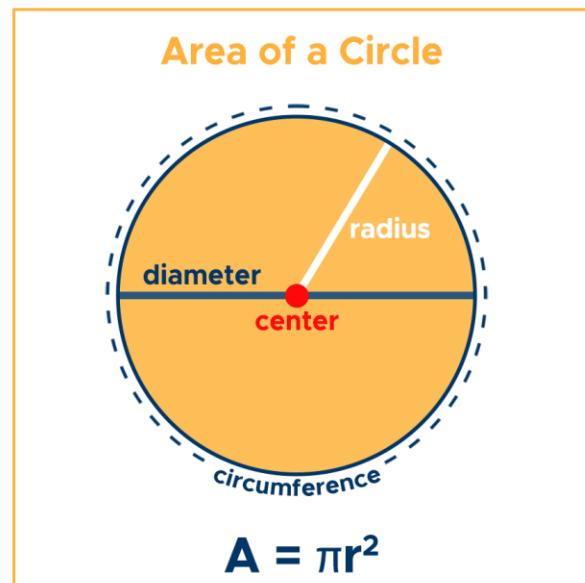
$C$  = circumference



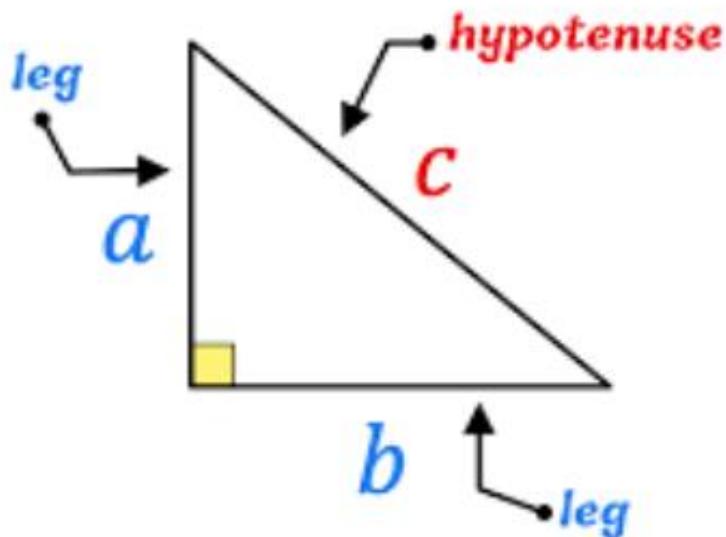
$$C = \pi \times d \quad \text{or} \quad C = 2 \times \pi \times r$$

$$\pi = 3.14$$

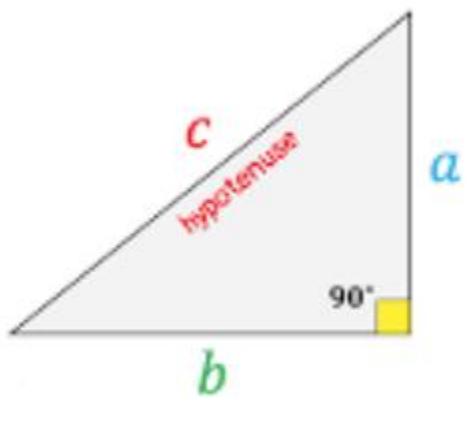
$$\pi = \frac{22}{7} \quad \text{or} \quad \pi \text{ on your calculator}$$



## ❖ Pythagoras theorem



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

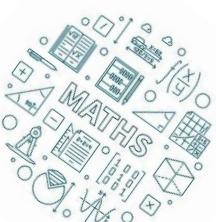


$$c^2 = a^2 + b^2$$

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

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

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



Teacher : Sally Serkisian