

---

## MATHEMATICS DEFINITIONS AND FORMULAS

---

### Definitions

$=$ is equal to	$\leq$ is less than or equal to	$\overline{AB}$ line segment $AB$
$\neq$ is not equal to	$\pi \approx 3.14$	$\overleftrightarrow{AB}$ line $AB$
$>$ is greater than	$\sphericalangle$ angle	$AB$ length of $\overline{AB}$
$<$ is less than	$\perp$ right angle	$\frac{a}{b}$ or $a : b$ ratio of $a$ to $b$
$\geq$ is greater than or equal to		

### Abbreviations for Units of Measurement

---

U.S. Standard		SI System		
<b>Distance</b>	in. inch ft. foot mi. mile	<b>Distance</b>	m meter km kilometer cm centimeter mm millimeter	<b>Time</b> sec. second min. minute hr. hour
<b>Volume</b>	gal. gallon qt. quart oz. fluid ounce	<b>Volume</b>	L liter mL milliliter cc cubic centimeter	
<b>Weight</b>	lb. pound oz. ounce	<b>Mass</b>	g gram kg kilogram mg milligram	
<b>Temperature</b>	$^{\circ}\text{F}$ degree Fahrenheit	<b>Temperature</b>	$^{\circ}\text{C}$ degree Celsius K Kelvin	
<b>Speed</b>	mph miles per hour			

### Conversions for Units of Measurement

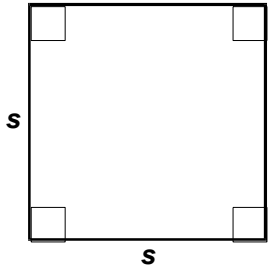
---

U.S. Standard		SI System	
<b>Length</b>	12 inches = 1 foot 3 feet = 1 yard 5280 feet = 1 mile	<b>Length</b>	10 millimeters = 1 centimeter 100 centimeters = 1 meter 1000 meters = 1 kilometer
<b>Volume (liquid)</b>	8 ounces = 1 cup 2 cups = 1 pint 2 pints = 1 quart 4 quarts = 1 gallon	<b>Volume</b>	1000 milliliters = 1 liter 1000 liters = 1 kiloliter
<b>Weight</b>	16 ounces = 1 pound 2000 pounds = 1 ton	<b>Weight</b>	1000 milligrams = 1 gram 1000 grams = 1 kilogram
	<b>Time</b>		60 seconds = 1 minute 60 minutes = 1 hour 24 hours = 1 day

## Geometric Figures

---

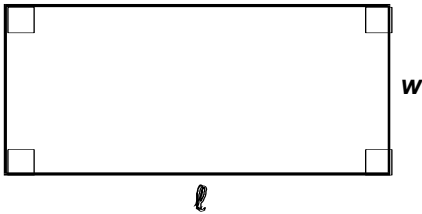
### Square



$$\text{Area} = s^2$$

$$\text{Perimeter} = 4s$$

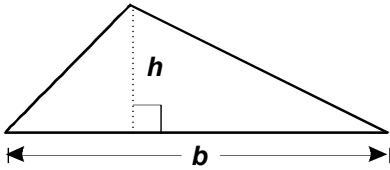
### Rectangle



$$\text{Area} = lw$$

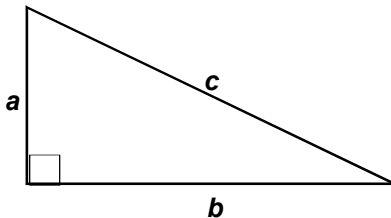
$$\text{Perimeter} = 2l + 2w$$

### Triangle



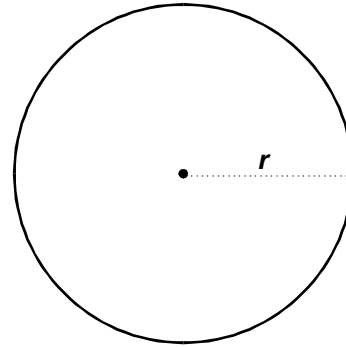
$$\text{Area} = \frac{1}{2}bh$$

### Right triangle



$$\text{Pythagorean formula: } c^2 = a^2 + b^2$$

### Circle

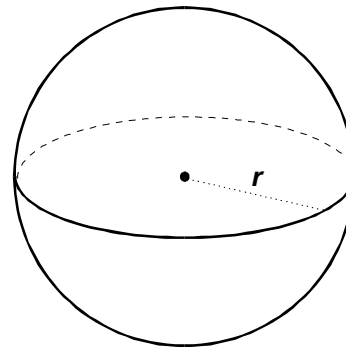


$$\text{Area} = \pi r^2$$

$$\text{Circumference} = 2\pi r$$

$$\text{Diameter} = 2r$$

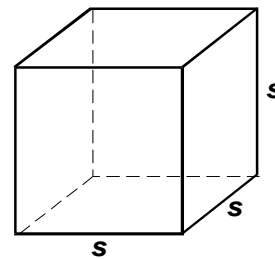
### Sphere



$$\text{Surface area} = 4\pi r^2$$

$$\text{Volume} = \frac{4}{3}\pi r^3$$

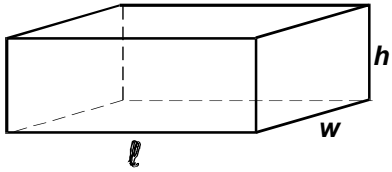
### Cube



$$\text{Surface area} = 6s^2$$

$$\text{Volume} = s^3$$

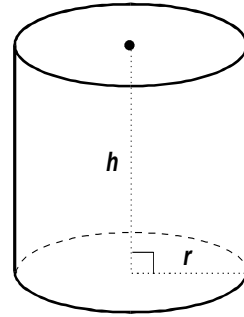
### Rectangular solid



$$\text{Surface area} = 2lw + 2lh + 2wh$$

$$\text{Volume} = lwh$$

### Right circular cylinder



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

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

---

End of Definitions and Formulas