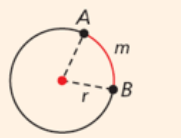
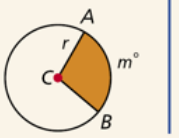


## Volume and Area Formulas

Conversion Between Radians and Degrees     $2\pi$  radians = 360 degrees     $\frac{2\pi}{360} = \frac{x \text{ rad}}{y \text{ deg}}$

<p>Circumference of a Circle    <b><math>C = 2\pi r</math></b>                  Arc Length    <b><math>(\text{Portion}/360 * 2\pi r)</math></b></p>  <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 100px;"> <math>L = 2\pi r \left( \frac{m^\circ}{360^\circ} \right)</math> </div>	<p>Area of a Circle <b><math>A = \pi r^2</math></b>                  Area of a Sector of a Circle    <b><math>(\text{Portion}/360 * \pi r^2)</math></b></p>  <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 100px;"> <math>A = \pi r^2 \left( \frac{m^\circ}{360^\circ} \right)</math> </div>
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### Population Density

$$\text{Population density} = \frac{\text{number of people}}{\text{area of land}}$$

Area of a Regular Polygon     **$A = \frac{1}{2} p a$**     p = perimeter    a = apothem

Area of a Rhombus or Kite     **$A = \frac{1}{2} d_1 d_2$**      $d_1$  = diagonal 1     $d_2$  = diagonal 2

<p><b>PRISM</b>                  Lateral Area of a Right Prism    <b><math>LA = p \cdot h</math></b>                  where p = perimeter of base and h = height                  *or you can find the area of each lateral face then add them up</p> <p>Total Area of a Right Prism    <b><math>TA = LA + 2B</math></b>                  where B = AREA of one base</p>	<p>Volume of a Right Prism    <b><math>V = B \cdot h</math></b></p>
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<p><b>CYLINDER</b>                  Lateral Area of a Right Circular Cylinder    <b><math>LA = 2\pi r h</math></b></p> <p>Total Area of a Right Circular Cylinder    <b><math>TA = LA + 2B</math></b>                  where <math>B = \pi r^2</math> the area of 1 base</p>	<p>Volume of a Cylinder    <b><math>V = \pi r^2 h</math></b></p>
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<p><b>PYRAMID</b>                  Lateral Area of a <b>REGULAR</b> Pyramid    <b><math>LA = \frac{1}{2} \cdot p \cdot \ell</math></b>                  *or find one lateral face and multiply by the total number of lateral faces</p> <p><b>Total Surface Area = LA + B</b>                  where B = area of the base</p>	<p>Volume of a Pyramid    <b><math>V = \frac{1}{3} B h</math></b>                  where B = area of the base and h = height of pyramid</p>
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<p><b>CONE</b>                  Lateral Area of a Cone = <math>\pi \cdot r \cdot \ell</math> where <math>\ell</math> is the slant height</p>	<p>Volume of a Cone    <b><math>V = \frac{1}{3} \pi r^2 h</math></b></p>
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<p><b>SPHERE</b>                  Total Area of a Sphere    <b><math>T.A. = 4 \cdot \pi \cdot r^2</math></b></p>	<p>Volume of a Sphere    <b><math>V = \frac{4}{3} \pi r^3</math></b></p>
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