

Resource Sheet Grade 10

| Standard Conversions | Metric Conversions |
|------------------------|-------------------------------|
| 1 mile = 5,280 feet | 1 kilometer = 1,000 meters |
| 1 yard = 3 feet | 1 meter = 100 centimeters |
| 1 foot = 12 inches | 1 centimeter = 10 millimeters |
| 1 ton = 2,000 pounds | 1 kilogram = 1,000 grams |
| 1 pound = 16 ounces | 1 liter = 1,000 milliliters |
| 1 gallon = 4 quarts | |
| 1 quart = 2 pints | |
| 1 pint = 2 cups | |
| 1 cup = 8 fluid ounces | |

| Formulas | | | |
|---------------|-------------------------------|----------------------|-----------------------------------|
| Triangle | $A = \frac{1}{2}bh$ | Slope | $m = \frac{y_2 - y_1}{x_2 - x_1}$ |
| Parallelogram | $A = bh$ | Point-Slope Form | $y - y_1 = m(x - x_1)$ |
| Trapezoid | $A = \frac{1}{2}h(b_1 + b_2)$ | Slope-Intercept Form | $y = mx + b$ |
| Rectangle | $A = lw$ | Standard Form | $Ax + By = C$ |

| Formulas, continued | | | |
|-------------------------|--|----------------------|---|
| Circle | $A = \pi r^2$ $C = 2\pi r \text{ or } C = \pi d$ | Midpoint Formula | $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$ |
| Quadratic Standard Form | $y = ax^2 + bx + c$ | Quadratic Formula | $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ |
| Prism | $V = Bh$ $\text{S.A.} = 2B + Ph$ | Cylinder | $V = Bh$ $\text{S.A.} = 2B + Ph$ |
| Pyramid | $V = \frac{1}{3}Bh$ $\text{S.A.} = B + \frac{1}{2}Pl$ | Cone | $V = \frac{1}{3}Bh$ $\text{S.A.} = B + \frac{1}{2}Pl$ |
| Pythagorean Theorem | $a^2 + b^2 = c^2$ | Distance Formula | $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ |
| Sphere | $V = \frac{4}{3}\pi r^3$ $\text{S.A.} = 4\pi r^2$ | Equation of a Circle | $(x - h)^2 + (y - k)^2 = r^2$ |
| Trigonometric Ratios | $\sin\theta = \frac{\text{Opposite side}}{\text{Hypotenuse}}$ $\cos\theta = \frac{\text{Adjacent side}}{\text{Hypotenuse}}$ $\tan\theta = \frac{\text{Opposite side}}{\text{Adjacent side}}$ | | |