

**Appendix A2:
Formula Sheet, Essential Mathematics**

Name of Formula	Details	Formula
Percentile Rank (<i>PR</i>)	<i>b</i> = number of raw scores below the given score <i>n</i> = total number of raw scores	$PR = \frac{b}{n} \times 100$
Simple Interest (<i>I</i>)	<i>P</i> = principal <i>r</i> = annual interest rate <i>t</i> = time in years	$I = Prt$
Gross Debt Service Ratio (<i>GDSR</i>)		$GDSR = \frac{\text{Monthly mortgage payment} + \text{Monthly property taxes} + \text{Monthly heating costs}}{\text{Gross monthly income}} \times 100$
Fuel Economy in L/100 km (<i>FE</i>)		$FE = \frac{\text{Fuel used in litres}}{\text{Distance in km}} \times 100$
Expected Value (<i>EV</i>)	<i>P</i> = probability	$EV = P(\text{win}) \times \$\text{gain} - P(\text{lose}) \times \loss
Sum of Interior Angles of Polygons (<i>S</i>)	<i>n</i> = number of sides	$S = 180^\circ(n - 2)$
Central Angle of Regular Polygons (<i>C</i>)	<i>n</i> = number of sides	$C = \frac{360^\circ}{n}$
Number of Diagonals in a Polygon (<i>D</i>)	<i>n</i> = number of sides	$D = \frac{n(n - 3)}{2}$
Trigonometric Laws		
Sine Law	$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$	Cosine Law $a^2 = b^2 + c^2 - 2bc \cos A$
Tax Rates		
Federal	Goods and Services Tax (GST) 5%	Provincial Provincial Sales Tax (PST) 8%