

Essential Mathematics 40S

Formula Sheet

Name of Formula	Details	Formula
Percentile Rank (<i>PR</i>)	b = number of raw scores below the given score n = total number of raw scores	$PR = \frac{b}{n} \times 100$
Simple Interest (<i>I</i>)	P = principal r = annual interest rate t = time in years	$I = Prt$
Gross Debt Service Ratio (<i>GDSR</i>)		$GDSR = \frac{\left(\begin{array}{l} \text{Monthly mortgage} \\ \text{+ property taxes} \\ \text{+ heating costs} \end{array} \right)}{\text{Gross monthly income}}$
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>)	P = probability	$EV = P(\text{win}) \times \$\text{gain} - P(\text{lose}) \times \loss
Sum of Interior Angles of Polygons (<i>S</i>)	n = number of sides	$S = 180^\circ(n - 2)$
Central Angle of Regular Polygons (<i>C</i>)	n = number of sides	$C = \frac{360^\circ}{n}$
Number of Diagonals in a Polygon (<i>D</i>)	n = 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 $a^2 = b^2 + c^2 - (2bc \cos A)$ $\cos A = \frac{b^2 + c^2 - a^2}{2bc}$
Additional formulas on next page. →		

Formula Sheet: Essential Mathematics (continued)

Tax Rates					
Provincial	Provincial Sales Tax (PST)	8%	Federal	Goods and Services Tax (GST)	5%
Taxes on Vehicle Purchases					
	PST	GST			
Buying New	PST	GST			
Buying Used from a Dealership	PST	GST			
Buying Used Privately	PST calculated on greater of book value or purchase price	No GST			
Safety	No PST	GST			
Materials and Labour	PST	GST			
Lien Search	No PST	No GST			
Taxes on Home Insurance					
	PST	GST			
Homeowner's/Tenant's Insurance	PST	No GST			