Foundations of Mathematics and Pre-Calculus 10

Formula Sheet

Trigonometry (Right Triangles)

Remember to check that your calculator is in DEGREE mode

SOHCAHTOA

\[
\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}} \quad \cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}} \quad \tan \theta = \frac{\text{opposite}}{\text{adjacent}}
\]

Pythagorean Theorem: \( a^2 + b^2 = c^2 \)

Linear Relations

The Equation of a Line

- Slope-Intercept Form: \( y = mx + b \)
- Standard Form: \( Ax + By = C \)
- General Form: \( Ax + By + C = 0 \)
- Point-Slope Form: \( y - y_1 = m(x - x_1) \)

The Slope of a Line

- \( \text{slope} = m = \frac{\text{rise}}{\text{run}} = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} \)

Finance

Interest

- Simple Interest: \( I = P \cdot r \cdot t \)
- Future Amount (Principal + Interest): \( A = P + I \) or \( A = P(1 + r \cdot t) \)
- Compound Interest: \( A = P \left(1 + \frac{r}{n}\right)^{nt} \)

Pay

- Gross Pay = Base Salary + Fringe Benefits
- Net Pay = Gross Pay – Deductions