Foundations of Mathematics and Pre-Calculus 10

Formula Sheet
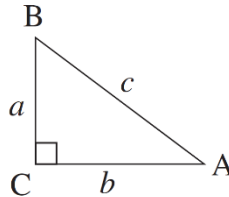
Trigonometry (Right Triangles)

Remember to check that your calculator is in DEGREE mode

SOHCAHTOA

$$\sin\theta = \frac{opposite}{hypotenuse} \qquad \cos\theta = \frac{adjacent}{hypotenuse} \qquad \tan\theta = \frac{opposite}{adjacent}$$

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

- $slope = m = \dfrac{rise}{run} = \dfrac{\Delta y}{\Delta x} = \dfrac{y_2 - y_1}{x_2 - x_1}$

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