MATHEMATICS 30-3 Online
Formula Sheet

Polygons

$$S = 180°(n-2)$$

- where S represents the sum of interior angles in a polygon
- where n represents the number of sides of a polygon

$$M = \frac{180°(n-2)}{n}$$

- where M represents the angle measure in a regular polygon
- where n represents the number of sides of a polygon

Transformations

$$\text{Scale Factor} = \frac{\text{Dimension of Image}}{\text{Dimension of Original}}$$

Trigonometry

Sine Law:

To find an angle:

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

To find a side length:

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

Cosine Law:

To find an angle:

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$

$$\cos B = \frac{a^2 + c^2 - b^2}{2ac}$$

$$\cos C = \frac{a^2 + b^2 - c^2}{2ab}$$

To find a side length:

$$a^2 = b^2 + c^2 - 2bc \cos A$$
$$b^2 = a^2 + c^2 - 2ac \cos B$$
$$c^2 = a^2 + b^2 - 2ab \cos C$$

Measurement

$$\text{uncertainty} = \frac{\text{precision}}{2}$$

$$\text{tolerance} = \text{maximum measurement} - \text{minimum measurement}$$

$$\text{nominal value} \pm \frac{1}{2}(\text{tolerance})$$