TRIG. SWOTTER

Definitions of ratios

$$\sin\theta = \frac{y}{r} \quad \text{or} \quad \frac{\text{opp}}{hyp} \quad \times$$

$$\cos\theta = \frac{x}{r} \quad \text{or} \quad \frac{adj}{hyp} \quad \times$$

$$\tan\theta = \frac{y}{x} \quad \text{or} \quad \frac{\text{opp}}{adj} \quad \times$$

Quotient identity

$$\tan\theta = \frac{\sin\theta}{\cos\theta} \quad \times$$

Squared identities

$$\sin^2\theta + \cos^2\theta = 1 \quad \times$$

$$\sin^2\theta = 1 - \cos^2\theta \quad \times$$

$$\cos^2\theta = 1 - \sin^2\theta \quad \times$$

Compound angle identities

$$\cos(x - y) = \cos x \cos y + \sin x \sin y$$

$$\cos(x + y) = \cos x \cos y - \sin x \sin y$$

$$\sin(x - y) = \sin x \cos y - \cos x \sin y$$

$$\sin(x + y) = \sin x \cos y + \cos x \sin y$$

Double angle identities

$$\sin 2x = 2\sin x \cos x$$

$$\cos 2x = \cos^2 x - \sin^2 x$$

$$= 2\cos^2 x - 1$$

$$= 1 - 2\sin^2 x$$

One can create half angle formulae by replacing 2x with x and x with half x

Solution of triangles

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

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

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

$$\text{Area } \Delta ABC = \frac{1}{2}ab\sin C$$

$\times$ indicates that the formula is not provided

You must know **EVERYTHING** on this sheet, by heart, forwards and sdrawkcab!

Fold in both sides of the page to meet at the middle of the = sign on each line. This allows one to look at either the LEFT or the RIGHT side to test oneself.