

Formulas for 1851 exams

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$$\sin(A \pm B) = \sin A \cos B \pm \cos A \sin B \quad (1)$$

$$\cos(A \pm B) = \cos A \cos B \mp \sin A \sin B \quad (2)$$

$$\tan(A \pm B) = \frac{\tan A \pm \tan B}{1 \mp \tan A \tan B} \quad (3)$$

$$\sin 2A = 2 \sin A \cos A \quad (4)$$

$$\cos 2A = \cos^2 A - \sin^2 A = 1 - 2 \sin^2 A \quad (5)$$

$$\tan 2A = \frac{2 \tan A}{1 - \tan^2 A} \quad (6)$$

$$2 \sin A \cos B = \sin(A + B) + \sin(A - B) \quad (7)$$

$$2 \cos A \cos B = \cos(A + B) + \cos(A - B) \quad (8)$$

$$2 \sin A \sin B = 2 \sin \frac{A + B}{2} \cos \frac{A - B}{2} \quad (9)$$

$$\sin A + \sin B = 2 \sin \frac{A + B}{2} \cos \frac{A - B}{2} \quad (10)$$

$$\sin A - \sin B = 2 \cos \frac{A + B}{2} \sin \frac{A - B}{2} \quad (11)$$

$$\cos A + \cos B = 2 \cos \frac{A + B}{2} \cos \frac{A - B}{2} \quad (12)$$

$$\cos A - \cos B = -2 \sin \frac{A + B}{2} \sin \frac{A - B}{2} \quad (13)$$

$$\int \sec x dx = \ln(\sec x + \tan x) + C \quad (14)$$