

# ACCELERATED PRECALCULUS

## FORMULA SHEET

(Semester 2)

$$\cos(u+v) = \cos u \cos v - \sin u \sin v$$

$$\sin(u+v) = \sin u \cos v + \cos u \sin v$$

$$\cos(u-v) = \cos u \cos v + \sin u \sin v$$

$$\sin(u-v) = \sin u \cos v - \cos u \sin v$$

$$\tan(u+v) = \frac{\tan u + \tan v}{1 - \tan u \tan v}$$

$$\tan(u-v) = \frac{\tan u - \tan v}{1 + \tan u \tan v}$$

$$\sin 2u = 2 \sin u \cos u$$

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

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

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

$$\tan 2u = \frac{2 \tan u}{1 - \tan^2 u}$$

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

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

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

$$\lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$