

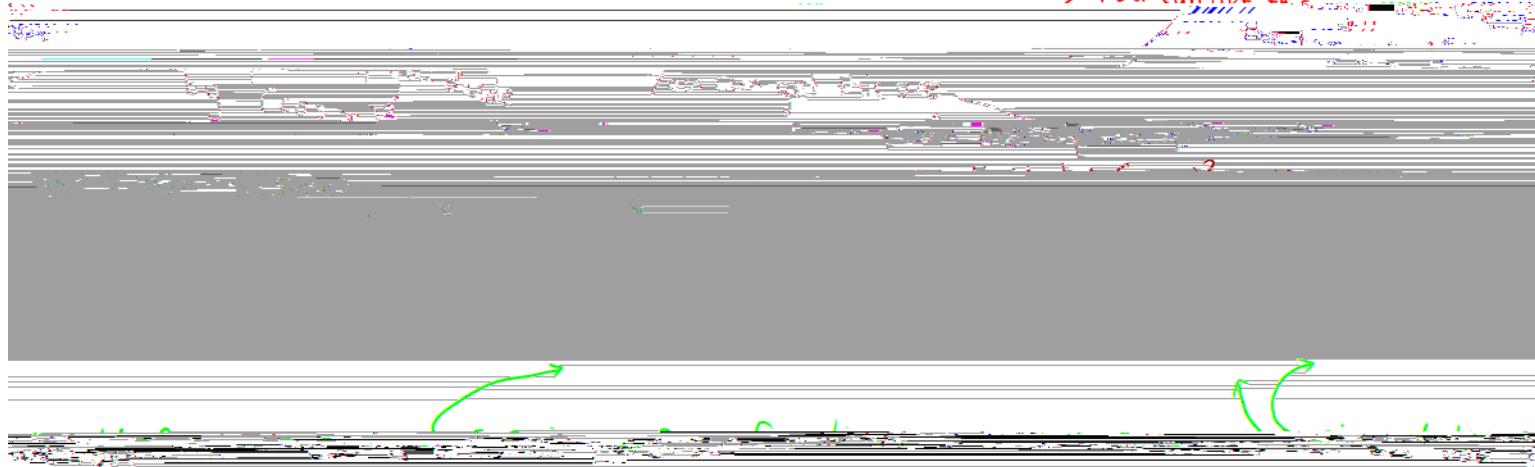
# USEFUL TRIGONOMETRIC IDENTITIES

Definitions

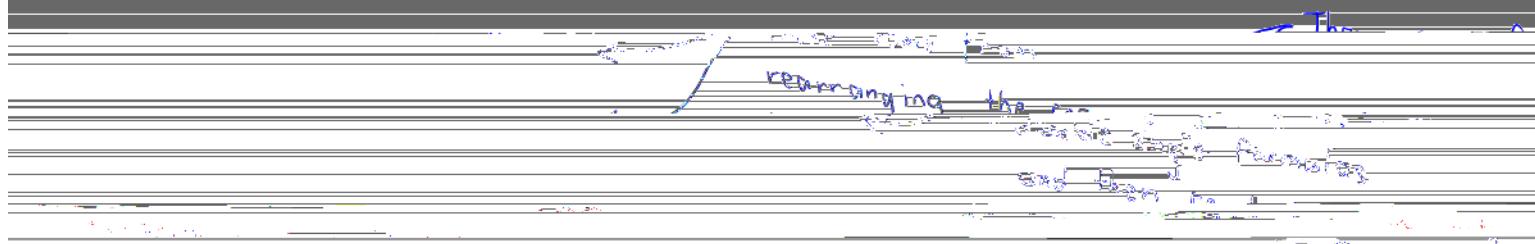
$$\tan x = \frac{\sin x}{\cos x}$$

$$\sec x = \frac{1}{\cos x} \quad \operatorname{cosec} x = \frac{1}{\sin x} \quad \cot x = \frac{1}{\tan x}$$

You can not have two acute angles in a triangle.



You can't have two obtuse angles in a triangle.



In triangle ABC,  $B = 90^\circ$



# USEFUL TRIGONOMETRIC IDENTITIES

## Unit circle properties

$$\cos(-x) = \cos(x) \quad \sin(-x) = \sin(x) \quad \tan(-x) = \tan(x)$$

$$\cos(\pi + x) = -\cos(x) \quad \sin(\pi + x) = -\sin(x) \quad \tan(\pi + x) = \tan(x)$$

$$\cos(2\pi - x) = \cos(x) \quad \sin(2\pi - x) = -\sin(x) \quad \tan(2\pi - x) = \tan(x)$$

$$\cos(2\pi + x) = \cos(x) \quad \sin(2\pi + x) = \sin(x) \quad \tan(2\pi + x) = \tan(x)$$