

5.4 The SUM and DIFFERENCE Identities

(Part 2)

The complete list:

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

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

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

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

$$\tan(x + y) = \frac{\tan x + \tan y}{1 - \tan x \tan y}$$

$$\tan(x - y) = \frac{\tan x - \tan y}{1 + \tan x \tan y}$$

To prove the identity for $\sin(x+y)$, we need to remember that $\cos(\pi/2 - \alpha) =$ and $\sin(\pi/2 - \alpha) =$

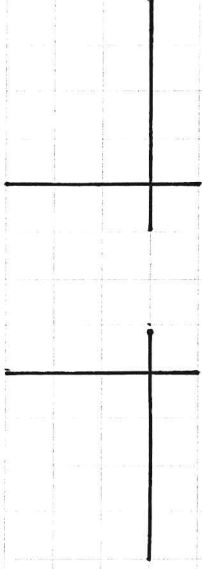
Then $\sin(x + y) =$

Ex. ① Find the EXACT values of:

a) $\sin 195^\circ$

b) $\cos 195^\circ$

c) $\tan 195^\circ$



Ex. ② Find the EXACT value of

$$\sin \left[\sin^{-1} \left(\frac{5}{13} \right) + \cos^{-1} \left(\frac{-3}{5} \right) \right]$$

