5 in (++B) = cos A cos B - 5 in As in B - + 5 in (++B) = 5 in A cos B + cos A 5.40

(5hr) (5 (x + 25) = (50x =0 (05(x+25) = C05 x C5525 - 5,7x 5,425 = C05 x W

(053x(502x - 81n3x8m2x= 605(3x+2x)) = C055x

 $\cos(90^{\circ} - x) = \sin x$   $\cos(90^{\circ} - x) = \cos 90^{\circ} \cos x + \sin 90^{\circ} \sin x$   $= \sin x$ 

(05/5°= C8

Cos 15° = Cos (45° - 30°) = Cos 45° cos 30° + sin 45° sin 30°  $= \frac{\sqrt{2}}{2} + \frac{\sqrt{2}}{2} = \frac{1}{2}$   $= \frac{\sqrt{6} + \sqrt{2}}{4} = \frac{\sqrt{6} + \sqrt{6}}{4} = \frac{\sqrt{6}}{4} = \frac{\sqrt{6} + \sqrt{6}}{4} = \frac{\sqrt{6$ 

tan (++B) = tan A + tan A 7

tan (A-131= tan A - tan B

tan (A+B) = 5.1 (A+3)

$$SinA = \frac{3}{5} A GBI / CODB = -\frac{5}{13} A GAM$$

$$COTA = \frac{4}{5} SINA CODB + CODA SINA = -\frac{3}{13} (-\frac{5}{13}) + (\frac{4}{5}) (-\frac{12}{13}) = -\frac{15 - 48}{65}$$

$$= -\frac{63}{65}$$

$$= -\frac{63}{65}$$

$$= \frac{4}{5} (-\frac{5}{13}) - (\frac{3}{5}) (-\frac{12}{13})$$

$$= -\frac{16}{15}$$

$$=$$

$$\frac{CD(x-y)}{Sinxsiny} = \cot x \cot y + 1$$

ER Prove: cot(x+y) = cotx coty-1

$$\frac{(\omega t(x+y) - \frac{(\omega s)(x+y)}{sin(x+y)}}{= \frac{(\omega s)(\omega s)(x+y)}{sin(x)(x+y)}} = \frac{(\omega s)(\omega s)(x+y)}{sin(x)(x+y)} = \frac{(\omega s)(\omega s)(x+y)}{sin(x)(x+y)} = \frac{(\omega s)(\omega s)(x+y)}{sin(x)(x+y)} = \frac{(\omega s)(\omega s)(x+y)}{sin(x)(x+y)} = \frac{(\omega t)(x+y)}{sin(x)(x+y)} = \frac{(\omega$$

Sec(x-y) = Cox con -sin xsiny Cosx- Sing Sec(x-y) = - Cos(x-y) Corxcory - sinx siny COX COOY - SINX SIND (COXCODY + SINXSINY) (COXCODY-SINXSIN) CJOX CODY - SIXSing Cosx cosy - singr sing COSX COSY - Six Sing Cosx (1-31-7) - (1-cosx)517 - COOX COOY - SINX SINY Coox - Coxsing - sing + cox sing = Cosx Cosy - sinx sing Cos2x - sin2y

$$\frac{AHD}{COSACOSB} = \frac{Sin(A-B)}{COSACOSB} = \frac{Sin(A-B)}{COSACOSB} = \frac{SinACOSB}{COSACOSB} = \frac{COSASINB}{COSACOSB} = \frac{SinACOSB}{COSACOSB} = \frac{SinACOSB}{COSACOSB} = \frac{SinACOSB}{COSACOSB} = \frac{COSXCOSB}{COS(X-Y)} = \frac{COSXCOSB}{COSXCOSB} - \frac{SinXSin}{COSXCOSB} = \frac{SinXSin}{COSXSIN} = \frac{COSXCOSB}{COSXSIND} = \frac{SinXSin}{COSXSIND}$$

Cac (x-y) = 514x Cosy + cosx sing Sin (x-y) Sinx Cony + Codx sing SMX Cop + Coxsing ( sinx cusy - cusx siny) (sinx cusy + coxsis) Sinx Cosy + Cox sing Singx Cooy \_ Cook sing Sinx Cosy + Cosx Sing Singx (1- Bing) - (1-5192) 5143 - Sinx Cosy + Cosx sing 5112- 5112 Sing - Sing + 51725.7 - 514x Cos & + Coxsing 5142x - 5142y

SinaA = 2 SINIA double and # 5,4 A | Sin2A = Sin (A+A) ] = Sin A COSA + COSA SINA = 2 sin A cosA / COS 2A = COS (A+A) = CODACORA - SINA SINA = Cos A - SinA = cos2A - (1-cos2A) = 2 cos A - 1 = 1- sm2A - sin2A =1-2 sin 24/ COS2A = 2005A-1

 $Cos2A = 2cos^2A - 1$   $cos2A + 1 = 2cos^2A = s$   $cos^2A = \frac{1+cos2A}{2}$  $sin^2A = 1 - cos2A$ 

(sino 4000) = 1+ sin 20 ( sind + coso) = sind + 28ind coso 4000 = 1 + mise u Prone

5inax = 2 cotx

1 + cotx

cosx

sinx  $2\frac{\cot x}{1+\cot^2 x} = 2\frac{\sin x}{1+\frac{\cos^2 x}{\sin^2 x}}$ 

= 2 Cost . Sing

= 2 Cosx smx = sin 2x ~  $(\omega 5 4 \times = 8 \cos^{4} x - 8 \cos^{2} x + 1$   $(\omega 5 (4 x) = \omega 5 2(2x)$   $= 2 \cos^{2} 2x - 1 \qquad (\omega 5 2x)^{2}$   $= 2 (2\cos^{2} x - 1)^{2} - 1$   $= 2 (4 \cos^{4} x - 4\cos^{2} x + 1) - 1$   $= 8 \cos^{4} x - 8 \cos^{2} x + 1$ 

Ean 2A = fan A + tan A 1 - tan A tan A = 2 fan A 1 - fan A