7 = 3 CO (x - 3) +2 3,4 55 7,24->25 5,12 -> 13 20,21-729 Dind Cx 0 = 1 CSCO = sino $pcco = \int$ coro sec o = 1 tand colo = 1 tano - coto tano = sua coso Cuto = Cosd sind $\begin{cases} \cos^2 \theta = 1 - 5, 5^2 \theta \\ \sin^2 \theta = 1 - \cos \theta \end{cases}$ Cos 20 + sur 0 = 1 1+ fan 0 = sec 0 1+ coto = coc 0

Ex seco tano - 1 sur o coso coso = <u>sin 0</u> Coso Cospenio = 1 - 51'nd 1- sin 2 Ex sui o Coso sui o Coso Bx tanx & cota = sin x + Cis x sinx - sin & + cos &

Cos & sin & - 1 Cosa sina Prone tanx + cox = sinx (secx + colx) sinx (secx + cetx) - sinx / corx + sinx corx = fan x + cosx tanx + cox = Sinx + cox Sinx

Coxx = Coxx = Sinx $= 5.4 \times \left(\frac{1}{\cos x} + \frac{\cos x}{5.4 \times 1} \right)$ = sinx (secx colx) v

Ex Prove Cuta +1 = coca (coox + suia) Coca (Cooa + sina) = 1 coa + 1 sia = Cutx + 1 $a^{3}-b^{3}=(a-b)(a^{2}+ab+b^{2})$ $a^{3} + b^{3} = (+) (-+)$ $a^{2} - 6^{2} = (a - b)(a + b)$ a 4 - 64 = (a2 67 (a+62)=(a-6)(a+6)(a2+62) 9 7 62 = CX C Ces 4t - sin 4t - 1-tant = Cost - sint - (cost - sint) (cost + sint) Cost - singt

Cost - singt - cost - sint (sint) = 1 - tan2t c

Prove sin 0 - 1- cos 20 1- cos 0 - 1-cos 0 1-000 = (1-coso) (1+coso) 1-000 = 1+ cos d 1+ cuso = (1+ cuso) 1- cuso - 1 - cos o 1+co 0 = sin 2 d $(1+\cos\theta)(1-\cos\theta) = \sin\theta$ $(1-\cos\theta) = \sin\theta$ pin²0 = pin²0 «

Prove tana (/+ cota)= /- sina tana (1+ cota) = tana + tana cota = tan' x + 1 = sec2a - 1- sin 2 a sin \(\tau \) / + cos \(\tau \) = 2 Csc \(\tau \) sin \(\tau \) \(\tau = sin x + 1)+2 cos x + cos 2 x sina (1+ cva) 2+2000 = sina (1+cusa) = 2 (1+ cosa) suia (1+ cosa) = 2 CSEX

$$\frac{1+\sin t}{\cot t} = \frac{1+\sin t}{\cos t} = \frac{1-\sin t}{1-\sin t}$$

$$\frac{1-\sin^2 t}{\cot t} = \frac{1-\sin^2 t}{1-\sin t}$$

$$= \frac{1-\sin^2 t}{\cot t}$$

$$= \frac{1-\sin^2 t}{\cot t}$$

$$= \frac{\cos^2 t}{1-\sin t}$$

$$= \frac{\cos^2 t}{1-\sin t}$$

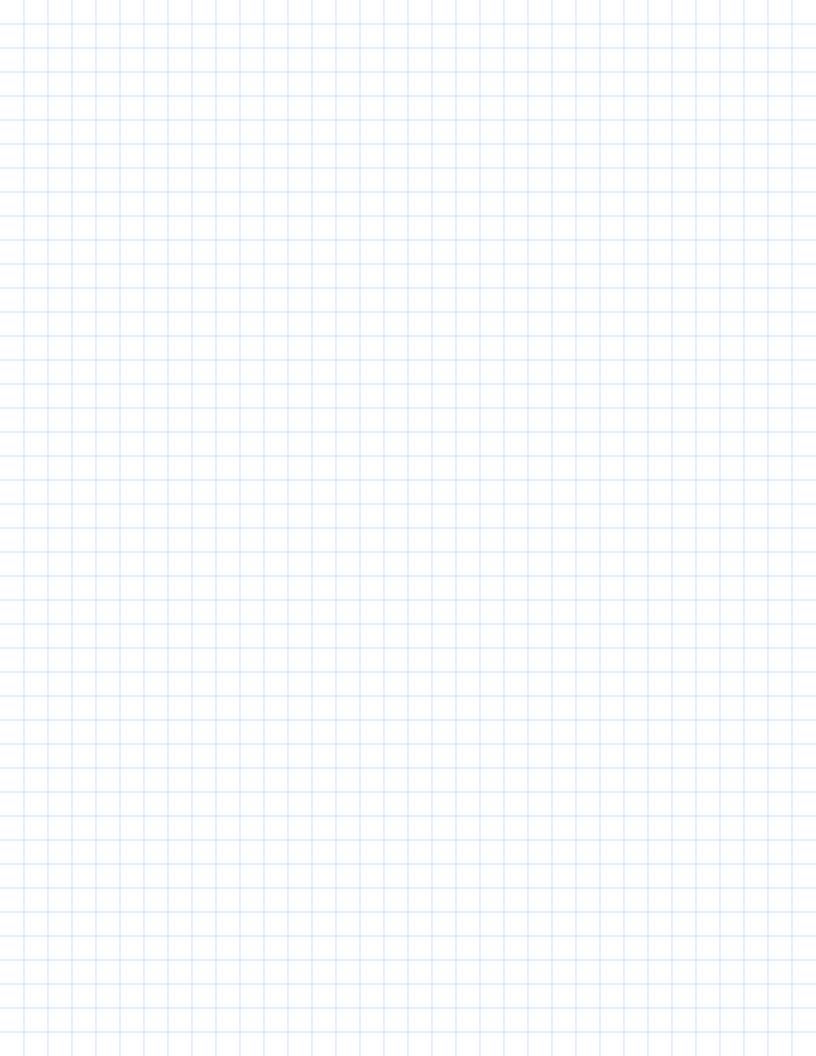
$$\cot^2 \theta + \cot^2 \theta + \cot^2 \theta$$

$$0 = \frac{\pi}{4}$$

$$\cot^2 \theta + \cot^2 \theta + \cot^2 \theta$$

$$\cot^2 \theta + \cot^2 \theta$$

20 7 csc2x - 5 cot2x = 2csc2x + 5 7 coc x - 5 cot x = 7 coc x - 5 (cse x - 1) = 7coc2x -5 cocx +5 = 2 cse x +5 V 33 (secx + fanx) = 1+ sinx (secx + tanx) = seex + 2 secxtanx +tanx - secx +2 1 Sinx + secx-1 - d + 25mx - 1 Cos2x Cos2x = 2 + 2 sin x - cos x Cos 2x = 2 + 2 sin x - (1- sin x) 1- sen X - sin2x+2 sinx +1 (1-mix) (1+ mix) - (1+ suix)2 (1- sinx) (14 sinx) = 1+ sin X 1-sin X



 $Cot^{3} = cot \times (cx^{2}x - 1)$ $Cotx (coc^2x - 1) = cotx (cot^2x)$ $= cot^3x$ Cosine squared Cos d

4 double d Cos 20

means $\frac{Cos(o+1)}{Cos(o+1)}$ Cos (A+B) = cosA cosB - sin A sin B sin (A+B) - sin A COB + COS A sin B 2 cosines -> 2 f 2 sincs = 52 4

Cos (75°) = Cos (45° + 30°) = Cos 45 Cos 30 _ 5,4 455,430 = 12 13 - 12 1 = 167-127 (2) (x + 27) = Ces x cus 2 17 _ sin x sin 2 17 = CDX Cos 3x cos 2x _ sin 3x sin 2x = cos (3 x + 2x) = CD5 X sin (90°-A1 = sin 90 as A - cos 90 sin A = cos A