Cos (A+B) = COSA COSB - SIGA SIGB sin (A+B): sin A cosb + cosA sinB 3,4->5 20,21-129 7,24->25 5, 12 -3 13 8, 15-017 (Cos 0 + sur 0 = 1) 5 5 0 = 1 - Cos 0 1+ fan 0 - sec 20 1+ cof 20 = coc 20 tan (A+S) = tanAt tanB 1 - tan AtanB tan (A-O) = tan A - tan B sin 2A = 2 sin A cosA Cos2A = Cos2A - sin2A = 2 cv3 A - 1 = 1 - 2 sin A } Cod X = 1 + cos 2 x sin x = 1-los 2 x  $cos = + \sqrt{\frac{1}{2}(1+cos x)} t$ si x = + / [ (1- cox) |

8.2 
$$\sin A = \frac{3}{5}$$
  $A \in OII$   $\cos B = \frac{12}{13}$   $B \in OIII$   
 $\cos A = -\frac{1}{5}$   $\sin A = -\frac{1}{5}$   $\sin B = -\frac{1}{5}$   $\cos A = -\frac{1}{$ 

e) fan (A-B) = - 56 33 Cis(x-3) = cotx coty +1 sinx sing Ces (x-g) \_ Cosx Cosy + sin x siny

sin x sin y \_ Cosx Cosy \_ sin x siny

= Cosx Cosy \_ sin x siny

sin x siny = cotx coty + 1 12, 12, 18, 19 Ex Cot (x+y) = cot x coty)-1 Outx + Coty Cot (x+y) - Cos (x+y) sin(x+y) COX COS 7 - mix min ) sinx cosy + Cibx siny Conx con Sinx sund sink sury sing - Duix Cony suix suny cosx sing 15/16 26 Cotx coty - 1 coty + cetx

Ex sec (x-y) = cox cosy - sinx siny Cos x - sin 29 sec(x-y)= 1 Cox cosy-sin x siny
Cox cosy-sin x siny Cos (x+7) - (Cox cosy+ sinx siny) (Coxcosy-sinx sing) - Cos (x+y)

- Cos x cos y - sin x sin y Cos(x+y) - Cos x (1-smy) - (1-cosx) sin y (x+3) - Cosx - los y sin y - sin y + cos x sin y = COSX COS - sinx sinx V 13,27,28

30, Cos(x-y) Cos(x+y) 1+ tanx tany 1- Fanx Fang  $\frac{\text{Cos} \times \text{cos} y}{\text{Cos} \times \text{cos} y} + \frac{\text{sin} \times \text{sin} y}{\text{cos} \times \text{cos} y}$   $\frac{\text{Cos} \times \text{cos} y}{\text{Cos} \times \text{cos} y} + \frac{\text{sin} \times \text{sin} y}{\text{cos} \times \text{cos} y}$ = 1 + tanx tany

- 1 - tanx tany 17 sin (x-3) - 1 - cotx tang sin(x-y) - sinx Cosy - cosx siny sinx cosy - suix cosy \_ cosx suiz suix losy \_ suix cosy = 1 - cotx lary -

Pouble\_4 half-augle 8.3 sin 2A = sin (2A) double-angle  $\sin^2 A = \left(\sin A\right)^2 \quad \text{square}$   $\sin x^2 \quad \text{esin}\left(x^2\right)$ sind A = 2 sin A sin 2A = sin (A+A) = sin A cos A + Cos A sin A = 2 sin A cos A COS 2A = COS (A + A) = COS A COS A - Sin A Sin A = COS A - Sin A } = 1- sin A - sin A -1-2 sin A = cos A - (1- cos A) = 2 Cos A - 1 tan 2A = 2fan A 1-tan A

$$2 \cos^{2} x - 1 = \cos 2x$$

$$2 \cos^{2} x = 1 + \cos 2x$$

$$\int \cos^{2} x = \frac{1 + \cos 2x}{2} = \frac{1}{2} + \frac{1}{2} \cos 2x$$

$$\int \sin^{2} x = \frac{1 - \cos 2x}{2} = \frac{1}{2} (1 + \cos x)$$

$$\int \cos \frac{x}{2} = \frac{1}{2} (1 + \cos x)$$

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Sin 
$$A = \frac{3}{5}$$

Cos  $A = -\frac{4}{5}$ 

a) sin  $2A = 2$  sin  $A$  cos  $A$ 

$$= 2\left(\frac{3}{5}\right)\left(-\frac{4}{5}\right)$$

$$= -\frac{24}{25}$$

b) cos  $2A = \cos A - \sin A$ 

$$= \frac{10}{25} - \frac{9}{25}$$

$$= \frac{7}{25}$$

C)  $\tan 2A = -\frac{24}{7}$ 
 $4 = \frac{7}{25}$ 

d) sin  $A = \sqrt{\frac{1}{2}(1-\cos A)}$ 

$$= \sqrt{\frac{1}{2}(1+\frac{4}{5})}$$

$$= \frac{3}{\sqrt{10}}$$

e)  $\cos A = +\sqrt{\frac{1}{2}(1+\cos A)}$ 

$$= \sqrt{\frac{1}{2}(1+\frac{4}{5})}$$

