$\frac{Sum + Difference [DENTITIEs}{Sum + Difference [DENTITIEs}$ Cos(A+B) = Cos A cos B - sin A sin B $cos(30^{\circ}+G0) = cos 30^{\circ} cos 60^{\circ} - sin 30^{\circ} sin 60^{\circ}$ $O = \frac{\sqrt{3}}{3} \cdot \frac{1}{3} - \frac{1}{3} \cdot \frac{\sqrt{3}}{2}$ $Cos(30^{\circ}+60^{\circ}) = Cos 30^{\circ} + cos 60^{\circ}$ $cos 90^{\circ} = \sqrt{3}/2 + \frac{1}{2}$ O

Tor F
Sin 70° = Sm 20° cos 50° - cos 20° sin 50°
= Sin (20° - 50°)
= Sin (20° - 50°)
T tan 110° =
$$\frac{\tan 80° + \tan 30°}{\tan 80° \tan 30°}$$

T tan 80° tan 30°
tan (80° + 30°)
Evaluate. (Answer is a #)
Sin SIT cos IZ - cos SIT sin IZ
= Sin (A-B)
= Sin (SIT - In)
= Sin (SIT - ZIT)
= Sin (SIT - ZIT)
= Sin 3IT TIN
= $\frac{1}{2}$

Find
$$\cos(A+B)$$
 given $\tan A = -\frac{154}{2x} \cos B = -\frac{3}{7} \frac{r}{9}$
 $\frac{17}{2} < A < T$ and $\frac{317}{2} < B < 27T$
 T
 T
 $\cos(A+B) = \cos A \cos B - \frac{5}{5} \ln A \sin B$
 $= \left(-\frac{2}{3}\right) \left(\frac{2\sqrt{2}}{3}\right) - \left(\frac{\sqrt{5}}{3}\right) \left(-\frac{1}{3}\right)$
 $= -\frac{4\sqrt{2}}{9} + \frac{\sqrt{5}}{9}$
 $= -\frac{4\sqrt{2} + \sqrt{5}}{9}$
 $x^{2} + 1 = 9$
 $\sqrt{x^{2} + \sqrt{5}}$

$$\frac{Verify}{\cos x \cos y} = \tan x + \tan y$$

$$\frac{\sin x \cos y + \cos x \sin y}{\cos x \cos y} = \frac{\sin x \cos x}{\cos x} \frac{\sin y \cos x}{\cos y}$$

$$= \frac{\sin x \cos y + \sin y}{\cos x \cos y}$$

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