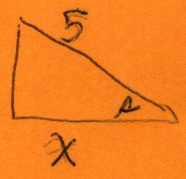
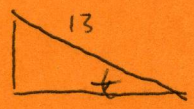
49) $\sin(A) = \frac{3}{5} \rightarrow$ 

$\rightarrow x^2 + 9 = 25$

$\rightarrow x = 4$

$\rightarrow \cos(A) = \pm \frac{4}{5}$

Since A in Q I, $\cos(\theta) > 0$ and $\cos(A) = \frac{4}{5}$.

$\sin(t) = -\frac{12}{13} \rightarrow$ 

$\rightarrow x^2 + 144 = 169$

$\rightarrow x = 5$

$\rightarrow \cos t = \pm \frac{5}{13}$

$169 - 144 = 25$

Since t is in Q III, $\cos(t) < 0$, so $\cos(t) = -\frac{5}{13}$

Thus, $\cos(A+t) = \cos(A)\cos(t) - \sin(A)\sin(t)$

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

$= \frac{-20}{65} + \frac{36}{65} = \frac{16}{65}$

$\cos(A-t) = \cos(A)\cos(t) + \sin(A)\sin(t)$

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

$= \frac{-20}{65} - \frac{36}{65} = \frac{-56}{65}$

63.) Verify $\cos\left(\frac{\pi}{2} + x\right) = -\sin(x)$

$= \sin\left(\frac{\pi}{2} - \left(\frac{\pi}{2} + x\right)\right)$

$= \sin(-x)$

$= -\sin(x)$ ↙

Verify

65) $\cos(2x) = \cos^2 x - \sin^2 x$

$\cos(2x) = \cos(x+x) = \cos(x)\cos(x) - \sin(x)\sin(x)$

$= \cos^2 x - \sin^2 x$