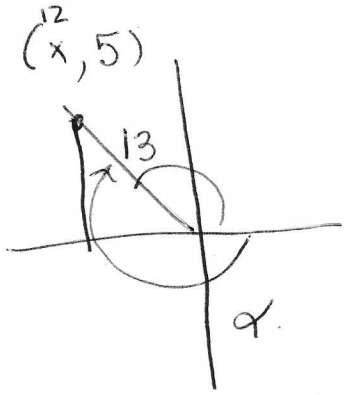
(4) (a) $\tan^{-1}(-1) = \boxed{\frac{-\pi}{4}}$

(b) $\cos^{-1}(-2) = \boxed{\text{not possible}}$

(c) $\sin^{-1}(\sin 5\pi/4) = \boxed{-\pi/4}$

(5)



$x^2 + 5^2 = 13^2$

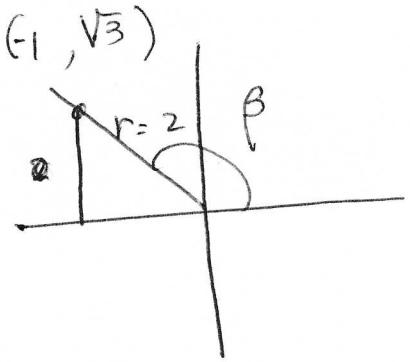
$x^2 + 25 = 169$

$x^2 = 144$

$x = -12$

$\sin\alpha = \frac{5}{13}$

$\cos\alpha = \frac{-12}{13}$



$\tan\beta = -\sqrt{3}$

$-1^2 + (\sqrt{3})^2 = r^2$

$1 + 3 = r^2$

$4 = r^2$

$2 = r$

$\sin\beta = \sqrt{3}/2$

$\cos\beta = -\frac{1}{2}$

$\cos(\alpha+\beta) = \cos\alpha\cos\beta - \sin\alpha\sin\beta$

$= \left(\frac{-12}{13}\right)\cdot\left(-\frac{1}{2}\right) - \left(\frac{5}{13}\right)\cdot\left(\frac{\sqrt{3}}{2}\right)$

$= +\frac{12}{26} - \frac{5\sqrt{3}}{26} = \boxed{\frac{12-5\sqrt{3}}{26}}$