

THIS IS A NO CALCULATOR QUIZ

[5 POINTS] Sketch the graph of the function $y = \cos^{-1} x$. State the domain and range of the function.

DOMAIN: $[-1, 1]$ $\frac{1}{2}$ POINT EACH RANGE: $[0, \pi]$

1 POINT FOR CORRECT POSITION
1 POINT FOR CORRECT SHAPE

[6 POINTS] Evaluate the following expressions. $\frac{1}{2}$ POINT EACH

$\arcsin(-1) = -\frac{\pi}{2}$	$\tan^{-1} \sqrt{3} = \frac{\pi}{3}$
$\cos^{-1} 0 = \frac{\pi}{2}$	$\arccos\left(-\frac{1}{2}\right) = \frac{2\pi}{3}$
$\arctan(-1) = -\frac{\pi}{4}$	$\sin^{-1} \frac{\sqrt{3}}{2} = \frac{\pi}{3}$

[9 POINTS] Evaluate the following expressions. Show your work if possible. If the expression has no value, write UNDEFINED.

$\cos(\arccos \pi) = \text{UNDEFINED}$ $\pi > 1$

$\sin^{-1}\left(\sin \frac{5\pi}{3}\right) = \sin^{-1}\left(-\frac{\sqrt{3}}{2}\right) = -\frac{\pi}{3}$

$\tan\left(\cos^{-1} \frac{2}{3}\right) = \frac{\sqrt{5}}{2}$

$x = \cos^{-1} \frac{2}{3} \Rightarrow \cos x = \frac{2}{3}$ AND $0 \leq x \leq \pi$
 $x \text{ IN } Q_1$
 $\tan x = \frac{\sqrt{5}}{2}$