

v4. $f(x) = \arcsin x - 2x$

$$f'(x) = \frac{1}{\sqrt{1-x^2}} - 2 \longrightarrow 1-x^2 \geq 0$$

$$0 = \frac{1}{\sqrt{1-x^2}} - 2 \quad -x^2 \geq -1$$

$$x^2 \geq 1$$

$$2 = \frac{1}{\sqrt{1-x^2}} \quad x > 1$$

$$x < -1$$

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

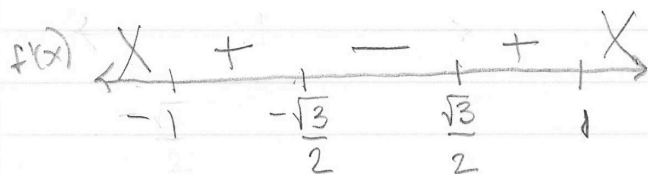
$$\sqrt{1-x^2} = 1/2$$

$$1-x^2 = 1/4$$

$$-x^2 = -3/4$$

$$x^2 = 3/4$$

$$x = \pm \sqrt{3}/2$$



max @ $x = -\sqrt{3}/2$ $\left(-\frac{\sqrt{3}}{2}, -\frac{\pi}{3} + \sqrt{3}\right)$



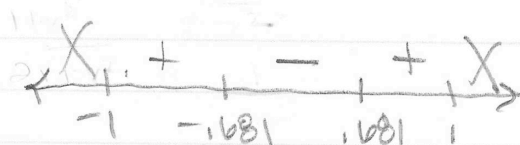
min @ $x = \sqrt{3}/2$ $\left(\frac{\sqrt{3}}{2}, \frac{\pi}{3} - \sqrt{3}\right)$

v6. $h(x) = \arcsin x - 2 \arctan x$

$$h'(x) = \frac{1}{\sqrt{1-x^2}} - \frac{2}{1+x^2}$$

$$0 = \frac{1}{\sqrt{1-x^2}} - \frac{2}{1+x^2}$$

$$x = -.681 \quad x = .681$$



max @ $x = -.681$ $(-.681, .447)$

min @ $x = .681$ $(.681, -.447)$