6.2

Verify the identity.

$$\sin^4 x + \cos^4 x = 1 - 2\cos^2 x + 2\cos^4 x$$

$$\sin^2 x \sin^2 x + \cos^4 x$$

$$(1-\cos^2 x)(1-\cos^2 x) + \cos^4 x$$

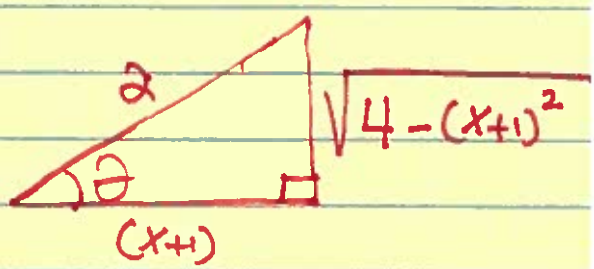
$$1 - 2\cos^2 x + \cos^4 x + \cos^4 x$$

$$1 - 2\cos^2 x + 2\cos^4 x \quad \checkmark$$

(76) $$\tan\left(\cos^{-1}\frac{x+1}{2}\right) = \frac{\sqrt{4-(x+1)^2}}{x+1}$$

Let $\theta = \cos^{-1}\left(\frac{x+1}{2}\right)$

$\cos\theta = \frac{(x+1)}{2}$



$$\tan(\theta) = \frac{\sqrt{4-(x+1)^2}}{(x+1)} \quad \checkmark$$