$$\cos\left(\frac{\theta}{2}\right) = \pm\sqrt{\frac{1+\cos(\theta)}{2}}$$

39. $\cos(75°) = \cos\left(\frac{150°}{2}\right)$

75° is a Quadrant 1 angle that is positive

$$\cos\left(\frac{150°}{2}\right) = \sqrt{\frac{1+\cos(150°)}{2}}$$

$$\sqrt{\frac{1+(-\sqrt{3}/2)}{2}}$$

$$\sqrt{\frac{1-(\sqrt{3}/2)}{2}}$$

$$\sqrt{\frac{2(1-(\sqrt{3}/2)}{2\cdot 2}}$$

$2(1) = 2$

$\frac{2}{1}\left(\frac{-\sqrt{3}}{2}\right) = -\sqrt{3}$

$2\cdot 2 = 4$ (2nd grade) ☺

$$\sqrt{\frac{2-\sqrt{3}}{4}} = \sqrt{\frac{2-\sqrt{3}}{2}}$$

$$\cos\left(\frac{150°}{2}\right) = \sqrt{\frac{2-\sqrt{3}}{2}}$$