Half Angle Identities   **Name**_____

Mr. Murphy

A.M.D.G.

$$\cos A = -\frac{7}{25} \text{ in Quadrant III}$$

Use the above information to answer problems 1 and 2

1) Find the value of $\sin \frac{A}{2}$

2) Find the value of $\cos \frac{A}{2}$

3) Find the value of $\tan \frac{A}{2}$ (hint: use sine and cosine)

4) Find all possible solutions for $0 \leq x \leq 360°$, or $0 \leq \theta \leq 360°$ as well as $0 \leq x \leq 2\pi$, or $0 \leq \theta \leq 2\pi$

a) $\sin\dfrac{x}{2} = -\dfrac{\sqrt{3}}{2}$

b) $\cos\dfrac{\theta}{2} = \dfrac{1}{2}$

5) Use a Half Angle identity to find the exact (non-decimal) value of $\cos 105°$

6) Use a Half Angle identity to find the exact (non-decimal) value of $\sin 22.5°$