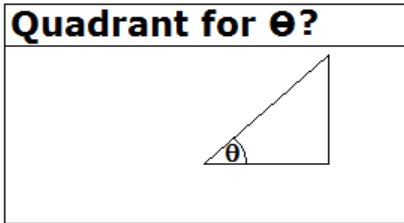


Any question asking for an exact answer will be marked wrong and receive no credit if there are decimal approximations in any step in the problem. Specific formulas are to be used in each of the problems. Any other attempt to work these problems without use of these formulas from the sections we have covered or correct deviations of those formulas will not receive any credit. DO NOT USE MATERIAL THAT IS OUTSIDE THE SECTIONS COVERED.

- (1) Find the exact value of $\cos\left(\frac{\theta}{2}\right)$ for the given conditions .

$$\csc(\theta) = \frac{4}{3} ; 0^\circ < \theta < 90^\circ$$



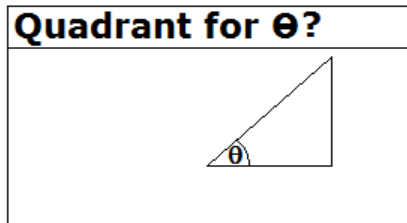
$$\cos\left(\frac{\theta}{2}\right) =$$

- (2) Find the exact solutions to the equation that are in the interval $[0, 2\pi)$

$$\sin(x) + \cos(2x) = 1$$

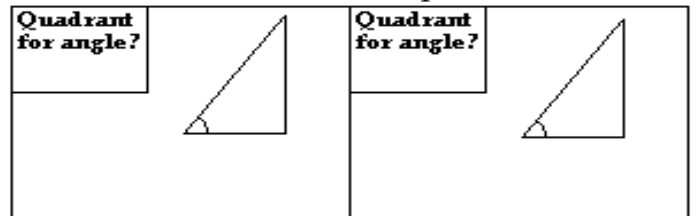
- (3) Find the exact value of $\tan(2\theta)$ for the given value of θ .

$$\sec(\theta) = -6 ; 180^\circ < \theta < 270^\circ$$



$$\tan(2\theta) =$$

- (4) Find the exact value of the expression.



$$\sin\left(\cos^{-1}\left(-\frac{1}{2}\right) - \tan^{-1}\left(\frac{\sqrt{7}}{3}\right)\right)$$

Extra Credit:.....

(1) **Verify the identity**

$$\sin^4(u) - \cos^4(u) = -2\cos(2x)$$

(2) **Find the exact solutions** in the interval $[0, 2\pi)$

$$\sin(2x) - \cos(x) = 0$$

(3) If you buy a baseball and a baseball bat for \$1.05 and if the baseball bat is 5 cents more than the baseball, then **how much did each one cost ?**