

Due Tuesday 2/21/2017

On a separate piece of paper, complete a-e for each of the following. Show all work. Avoid intermediate rounding error. Box your final answers, with units when appropriate.

1. If  $\sec\theta = -5$  and  $\csc\theta < 0$
2. If  $\cot\theta = -\frac{3}{4}$  and  $\sec\theta < 0$
3. If  $\csc\theta = -3$  and  $\sec\theta < 0$
4. If  $\cos\theta = \frac{2}{7}$  and  $\csc\theta < 0$

- (a) Draw the reference triangle for  $\theta$  in the correct quadrant. Show your arc and angle  $\theta$ .
- (b) Find the **simplified, exact, rationalized** value of  $\sin\theta$ .
- (c) Find the **simplified, exact, rationalized** value of  $\tan\theta$ .
- (d) Find the reference angle,  $\theta_{ref}$ , for  $\theta$  in degrees. **Show the equation you are solving** and report 3 decimals.
- (e) To three decimals, find the value of  $\theta$  such that  $\theta \in [0^\circ, 360^\circ)$ . Show the computations that lead to your answer.