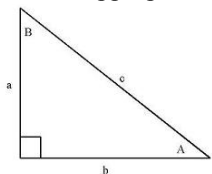


## Chapter 9 – Section 9.2 Identities, Expressions and Equations

## TICKET-IN-THE-DOOR

In order to be prepared for class you must watch the module and complete the following activity. This is due first thing when you get to class. Check your understanding:

1. *Review:* Find the following **exactly** using the figure if  $a = 6$  and  $b = 7$ . Express your answers as unsimplified radicals. when appropriate.



- |                   |                   |                   |
|-------------------|-------------------|-------------------|
| a) $\sin A^\circ$ | b) $\cos A^\circ$ | c) $\tan A^\circ$ |
| d) $\sin B^\circ$ | e) $\cos B^\circ$ | f) $\tan B^\circ$ |

2. Find **all possible solutions** to the trigonometric equation:  $4 \cos t - \sin t \cos t = 0$  for  $0 \leq t \leq 2\pi$  and give your answer in radians. (Hint: How would you solve  $4x - yx = 0$  in Algebra?)

3. Find **all possible solutions** to the trigonometric equation:  $\sin^2 \theta - \cos^2 \theta = \sin \theta$  for  $0 \leq \theta \leq 2\pi$  and give your answer in radians. (Hint: The first step is to use Pythagorean identities to write the equation in terms of one trig function)

4. If  $\frac{3\pi}{2} \leq \theta \leq 2\pi$  and  $\cos \theta = \frac{8}{13}$ , find  $\sin(2\theta)$ ,  $\cos(2\theta)$ , and  $\tan(2\theta)$ . (Hint: Draw a right triangle, find  $\sin \theta$ ,  $\tan \theta$ , and then finally use the **double angle** formulas)