

Complete as many of the following problems as you can with your table. You do not have to go in order. If **your entire table** finishes early, and your answers have been checked, you may leave early.

1. Simplify the following:

(a)  $\frac{4 \tan(\theta) - 5}{5 \cot(\theta) - 4}$

(c)  $-\cos^2(\theta) \sin^2(\theta) + (2 \sin(\theta) \cos(\theta))^2$

(b)  $(\sec(A) + \tan(A))(\sec(A) - \tan(A))$

(d)  $\frac{\sin^2 t - \cos^2 t}{\sin^4 t - \cos^4 t}$

2. (a) If  $\sin \theta = -\frac{3}{5}$  and  $\theta$  is in the third quadrant, find the other trigonometric values of  $\theta$   
(b) If  $\tan \theta = -\frac{8}{15}$  and  $\cos \theta < 0$ , find the other trigonometric values of  $\theta$

Key:

1. (a)  $-\tan \theta$   
(b) 1  
(c)  $3 \sin^2 \theta \cos^2 \theta$   
(d) 1
2. (a)  $\cos \theta = -\frac{4}{5}$   $\tan \theta = \frac{3}{4}$   $\cot \theta = \frac{4}{3}$   $\sec \theta = -\frac{5}{4}$   
 $\csc \theta = -\frac{5}{3}$   
(b)  $\cos \theta = -\frac{15}{17}$   $\cot \theta = -\frac{15}{8}$   $\sec \theta = -\frac{17}{15}$   $\sin \theta = \frac{8}{17}$   
 $\csc \theta = \frac{17}{8}$