

Trigonometric Equations Quiz Review  
Algebra III

Name: \_\_\_\_\_  
5/2/18

1. Simplify each

a.  $\sin \theta \cot \theta \cos \theta$

b.  $(1 - \cos \theta)(1 + \cos \theta)$

c.  $\sin \theta \csc \theta - \frac{1}{\sec^2 \theta}$

d.  $\frac{1}{\cos \theta} - \frac{\sin^2 \theta}{\cos \theta}$

2. Find the solution set where  $0 \leq \theta < 2\pi$  (4 points each)

a.  $\sin \theta = \frac{1}{2}$

b.  $\cos \theta = -\frac{\sqrt{3}}{2}$

c.  $2 \cos \theta + 3 = 4$

d.  $2 \cos^2 \theta - \sqrt{3} \cos \theta = 0$

3. Find the solution set where  $0^\circ \leq \theta < 360^\circ$  (4 points each)

a.  $\tan \theta = 1$

b.  $\sin \theta = -\frac{\sqrt{2}}{2}$

c.  $\sec^2 \theta - \sec \theta = 2$

d.  $2 \sin \theta + 1 = \sin \theta$

Bonus. (4 points each)

1. Simplify

$$\frac{1}{1 - \sin \theta} + \frac{1}{1 + \sin \theta}$$

2. Find the solution set where  $0 \leq \theta < 2\pi$

$$\cos^2 \theta = 1 + \sin \theta$$