

**Solve:**

1)

$$\tan \theta = \frac{\sqrt{3}}{3} . \text{ What is } \cot \theta?$$

2)  $\sin \theta = \frac{8}{9}$  . What is  $\csc \theta$ ?

3) Fill in the formula:  
Using the Reciprocal Identity, we have  
 $\cot \theta =$  \_\_\_\_\_

4)

$$\cos \theta = \frac{-\sqrt{3}}{2} . \text{ Where } \theta \text{ lies in Quadrant II.}$$

What is  $\sin \theta$ ?

5)  $\csc \theta = \frac{4}{3}$  . Where  $\theta$  lies in Quadrant II. What is  $\cot \theta$ ?

6)  $\sin \theta = \frac{-2}{5}$  and  $\tan \theta = \frac{-4}{5}$   
What is  $\cos \theta$ ?

7)  $\sin \theta = \frac{9}{17}$  and  $\cos \theta = \frac{4}{17}$   
What is  $\cot \theta$ ?

**Simplify:**

8)  $\csc(y)\tan(y)$

9)  $\sec(\theta)\csc(\theta) - \tan(\theta)$

10)  $\sin(x)\tan(x) + \cos(x)$

11)  $\cos(x)\tan(x) + \sin(x)$

12)  $\sin(v)\csc(v)$

13) 
$$\frac{1 + \sec(\phi)}{\tan(\phi) + \sin(\phi)}$$

14)  $\tan^4(\phi) + 2\tan^2(\phi) + 1$

15) 
$$\frac{\tan(\theta) - \cot(\theta)}{\tan(\theta) + \cot(\theta)} + 2\cos^2(\theta)$$

16)  $(\sin(y) + \cos(y))^2 + (\sin(y) - \cos(y))^2$