

Simplify each using trig identities and methods discussed in class. Show all work/steps. If you don't write down each step, I won't be able to tell how you got from one point to the next, and you will lose points. All work/steps MUST be neat, organized, and legible. Circle your final answer. If you use looseleaf, indicate that you've done so next to the problem and staple it to the back.

1.)  $\sin(x) \cot(x)$

2.)  $\frac{\sec(x)}{\csc(x)}$

3.)  $\frac{1-\sin^2(x)}{\cos(x)}$

4.)  $\sin(t) - \sin(t) \cos^2(t)$

5.)  $\cos(x) + \tan(x) \sin(x)$

6.)  $\sin^3(x) + \sin(x) \cos^2(x)$

7.)  $\frac{\csc(x) - \sin(x)}{\csc(x)}$

$$8.) 1 - \cos^2(x) - 1$$

$$9.) \frac{\sin(x)\sec(x)}{\cos^2(x)}$$

$$10.) \frac{\tan(x)\sec(x)}{\csc(x)\tan(x)\sec(x)-1}$$

$$11.) \frac{\sin^2(x)+2\sin(x)\cos(x)+\cos^2(x)}{\sin^2(x)-\cos^2(x)}$$

$$12.) \frac{\sin(x)\cos^2(x)+\sin^3(x)}{\sin(x)+\cos(x)}$$