Math 2413 – Calculus I **Homework** Section 2.4 **Name**:

Find the Derivative:

1. $f(x)=\sqrt{x}\sin x$

2. $f(x)=\dfrac{\cos x}{x^3}$

3. $f(x)=\dfrac{\sin x}{x}$

4. $f(x)=x^2\sin x$

5. $f(x)=-x+\tan x$

6. $g(t)=\sqrt[4]{t}+6\csc t$

7. $y=-\csc x-\sin x$

8. $f(x)=x^2\tan x$

9. $y=2x\sin x+x^2\cos x$

10. $f(\theta)=(\theta+1)\cos\theta$

11. $f(x)=\dfrac{\sec x}{x}$

12. $f(x)=\sin x\cos x$

13. $f(x)=\dfrac{\sin x-3x}{x}$

14. $f(\theta)=\dfrac{\sin\theta}{1-\cos\theta}$

15. $f(\theta)=\dfrac{\theta}{1-\sin\theta}$

16. $y=\dfrac{3(1-\sin x)}{2\cos x}$