SI Session Week 5
Thursdays 4:00 – 5:30 PM, Rm. 1229
Fridays 2:00 – 3:30 PM. Rm. 1223

Prof. Stockton : Calculus I : Fall 2007
SI Leader : Neil Jody

Directions:

Find $\frac{df}{dx}$.

Tips: $\frac{d}{dx}\left[f(x)g(x)\right] = f(x)g'(x) + g(x)f'(x)$

$\frac{d}{dx}\left[\frac{f(x)}{g(x)}\right] = \frac{g(x)f'(x) - f(x)g'(x)}{(g(x))^2}$

1. f(x) = $\frac{\sin(x)}{x+3}$
2. f(x) = $2\sqrt{x}\sin x$
3. f(x) = $\frac{4x}{\tan(x)}$
4. f(x) = $\frac{\sqrt{x}-\sqrt{2}}{x-2}$
5. f(x) = $(3x^2+11x-4)(2x^2+13x-15)$
6. f(x) = $\frac{x^2-5}{10x^3+40x^2}$
7. f(x) = $\frac{\sin(x)}{1-\cos(x)}$
8. f(x) = $\frac{\tan(x)}{x}$
9. f(x) = $\frac{x^4-16}{x^2-x-2}$
10. f(x) = $x\cos(x)$
11. f(x) = $2\sin(x)\cos(x)$
12. f(x) = $\frac{x^2}{\csc(x)}$
13. f(x) = $\frac{\cos(x)-1}{5x}$
14. f(x) = $(x^2+3)(x^3-3x+1)$
15. f(x) = $(x^3-2x^2+5)(x^4-3x^2+2)$
16. f(x) = $(\sqrt{x}+3x)\left(5x^2-\frac{3}{x}\right)$
17. f(x) = $\left(x^{\frac{3}{2}}-4x\right)\left(x^4-\frac{3}{x^2}+2\right)$
18. f(x) = $\frac{3x-2}{5x+1}$
19. f(x) = $\frac{x^2+2x+5}{x^2-5x+1}$
20. f(x) = $\frac{3x-6\sqrt{x}}{5x^2-2}$
21. f(x) = $\frac{(x+1)(x-2)}{x^2-5x+1}$
22. f(x) = $\frac{x^2-2x}{x^2+5x}$
23. f(x) = $\frac{2x}{x^2+1}$
24. f(x) = $\sin(x)\sec(x)$
25. f(x) = $\frac{x^2+\tan(x)}{3x+2\tan(x)}$
26. f(x) = $\frac{2+\sin(x)}{x+2}$
27. f(x) = $\frac{\sec(x)}{2-\cos(x)}$
28. f(x) = $\frac{1+\sin(x)}{\sqrt{x}}$