

Lesson 27 Hw

1. $dy = \sec^2 x dx$

2. $dy = (4x^3 - 6x + 4) dx$

3. $dy = -5 \csc(5x) \cot(5x) dx$

4. $dy = \frac{1}{(x+1)^2} dx$

5. $f(3.1) \approx 48$

6. $f(2.9) \approx 42$

7. $f(101) \approx \frac{201}{20}$

8. $f(17) \approx \frac{65}{32}$

9. $f(8.2) \approx \frac{248}{15}$

10. $f(2^\circ) \approx 1$

11. $f(29) \approx \frac{\pi}{90}$

a) $g(x) = -x - 1$

b)

x	f(x)	g(x)
0.7	-1.457	-1.7
0.8	-1.688	-1.8
0.9	-1.871	-1.9
1	-2	-2
1.1	-2.069	-2.1
1.2	-2.072	-2.2
1.3	-2.003	-2.3

c) The tangent line approximation is more accurate the closer we are to $x=1$. As we move away from $x=1$, the tangent line approximation is less and less accurate.