Chapter 2 Review:

38. a is the function, c is the derivative (it's 0 when a has horizontal tangent line), and b is the derivative of c, and so the second derivative of the function.

Chapter 3 Review:

2. $-\sin(\tan x)(\sec^2 x)$

4. $\frac{3x+5}{(2x+1)^{3/2}}$

6. $\frac{e^x(x-1)^2}{(1+x^2)^2}$

8. $e^{-t}(-t^2+4t-4)$

16. $\frac{y-2x\cos y}{2\cos 2y-x^2\sin y-x}$

18. $\frac{2xe^x+x^2e^x}{x^2e^x}$, which can be simplified to $\frac{2}{x}+1$.

20. Omit this problem.

22. $\frac{\ln(t^4)+4}{2\sqrt{t\ln(t^4)}}$

24. $\frac{e^y}{1-xe^y}$

28. $-\sin x e^{\cos x}-e^x\sin(e^x)$

40. $y'=\frac{4x}{(x^2+1)^2}$. Equation of the tangent line is $y=-1$

Chapter 4 Review:

2. Absolute min at $x=-1/4$ and absolute max at $x=2$.

4. Absolute max at $x=\sqrt{e}$ and absolute min at $x=1$.