**Review: Derivatives TWO**

1. Find the derivatives, $f'(x)$:

a. $f(x) = \dfrac{1}{2}x^2 - x - 2$

b. $f(x) = \dfrac{2x - 7}{e^x}$

c. $f(x) = \dfrac{\ln x}{4x^2}$

d. $f(x) = (2x - 4)\sin x$

e. $y = -x^3(3x^4 - 2)$

f. $f(x) = \dfrac{5}{x^8}$

g. $y = (-2x^4 - 3)(-2x^2 + 1)$

h. $f(x) = \sin 2x^3$

i. $f(x) = (5x^5 + 5)(-2x^5 - 3)$

J. $y = (-5x^3 - 3)^3$

Given the function $f(x) = 6x^7 - 9x^4 + 3x^2 + 2$, find the following.

$f'(x) =$

$f''(x) =$

2. For each problem, find the equation of the tangent line at the given value.

a. $y = x^3 - 2x^2 + 2$ at x = 2

b. $y = -\dfrac{3}{x^2 - 25}$ at x = -4

c. $y = (5x + 5)^{\frac{1}{2}}$ at x = 4