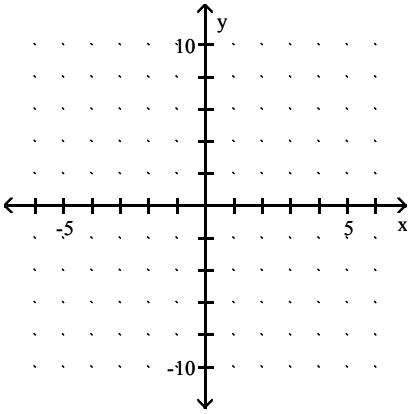
1) $y = \frac{x^3}{2}$, (8, 256) 1) _____

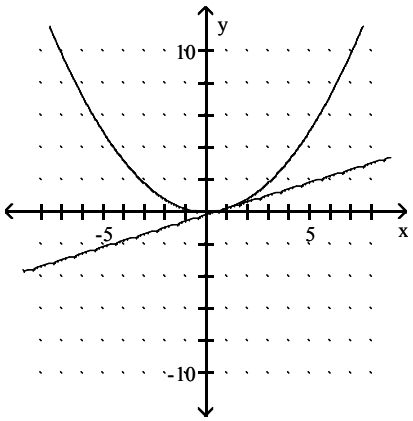
A) $y = 32x - 512$ B) $y = 32x + 512$ C) $y = 512x + 96$ D) $y = 96x - 512$

**Graph the equation and its tangent.**

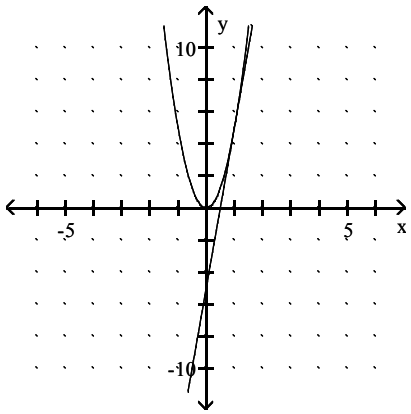
2) Graph $y = 5x^2$ and the tangent to the curve at the point whose x–coordinate is 1. 2) _____



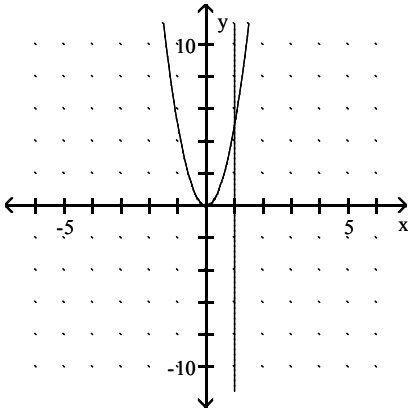

A)



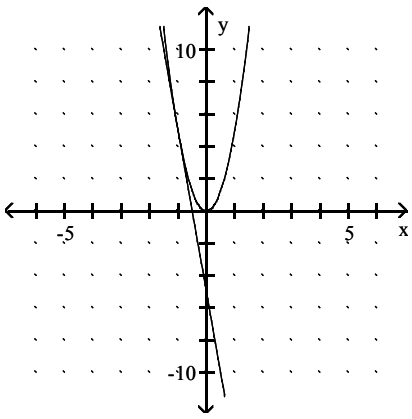

B)




C)




D)



**Calculate the derivative of the function. Then find the value of the derivative as specified.**

3) $f(x) = 5x + 9$; $f'(2)$ 3) _____

A) $f'(x) = 5$; $f'(2) = 5$
B) $f'(x) = 0$; $f'(2) = 0$
C) $f'(x) = 9$; $f'(2) = 9$
D) $f'(x) = 5x$; $f'(2) = 10$

4) $g(x) = 3x^2 - 4x$; $g'(3)$ 4) _____

A) $g'(x) = 6x$; $g'(3) = 18$
B) $g'(x) = 3x - 4$; $g'(3) = 5$
C) $g'(x) = 2x - 4$; $g'(3) = 2$
D) $g'(x) = 6x - 4$; $g'(3) = 14$

**Find the indicated derivative.**

5) $\frac{dy}{dx}$ if $y = 3x^3$ 5) _____

A) $9x$ B) $3x^2$ C) $9x^2$ D) $9x^3$