

Find the derivative.

1) $f(x) = 7x^{-4}$, find $f'(2)$.

A) -14

B) -3.5

C) -0.87

D) -1.75

2) $y = 6x^{-2} + 8x^3 + 11x$, find $f'(x)$

A) $-12x^{-1} + 24x^2 + 11$

B) $-12x^{-1} + 24x^2$

C) $-12x^{-3} + 24x^2 + 11$

D) $-12x^{-3} + 24x^2$

Find the slope of the line tangent to the graph of the function at the given value of x .

3) $y = 9x^{5/2} - 7x^{3/2}$; $x = 4$

A) 159

B) 6

C) 8

D) 96

Find an equation for the line tangent to given curve at the given value of x .

4) $y = x^2 - x$ at $x = -3$

A) $y = -7x + 6$

B) $y = -7x - 6$

C) $y = -7x - 9$

D) $y = -7x + 9$

Find all values of x (if any) where the tangent line to the graph of the function is horizontal.

5) $y = x^3 - 12x + 2$

A) -2, 0, 2

B) 0

C) 0, 2

D) 2, -2

Solve the following.

6) Find all points of the graph of $f(x) = 3x^2 + 9x$ whose tangent lines are parallel to the line $y - 33x = 0$.

A) (4, 84)

B) (7, 210)

C) (6, 162)

D) (5, 120)