

3-6

Practice Worksheet

Tangent to a Curve

Find the derivative of each function.

1. $f(x) = 1.2x^4 - 3.5x^3 + 2.4x$

2. $f(x) = 3x^{-3} - 5x^{-2} - 4x$

3. $f(x) = \frac{2}{x^5} - \frac{5}{x^2}$

4. $f(x) = \frac{1}{3}x^3 + \frac{1}{2}x^2 + 3$

Find the slope of the line tangent to the graph of each function at the given point.

5. $y = 3x^2, (1, 3)$

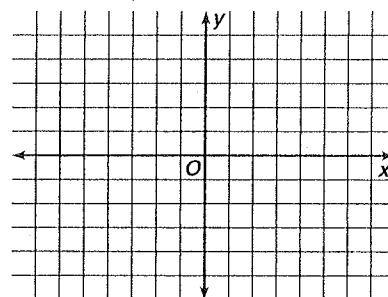
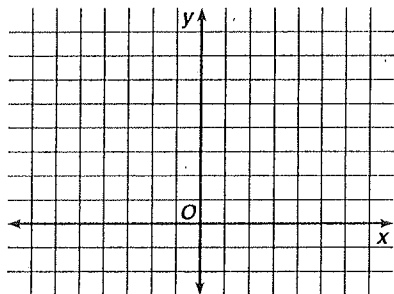
6. $y = \frac{1}{2}x^2 - 4, (2, -2)$

7. $y = \frac{4x^3 - 7}{2}, (1, 0)$

Find the equation of the line tangent to the graph of each function at the given point. Write the equation in slope-intercept form. Graph the function and the tangent.

8. $y = 2x^2 - 1, (-1, 1)$

9. $y = x^2 - 5x + 1, (0, 1)$



10. Find the coordinates of the point(s) at which the line tangent to the graph of $f(x) = x^2 - 1$ has slope -2 .