

Equations of Tangent Lines

Date _____

Period _____

For each problem, find the slope of the function at the given value.

1) $y = x^3 - 10x^2 + 33x - 34$ at $x = 3$

2) $y = \frac{1}{x-1}$ at $x = 0$

3) $y = -\frac{1}{x^2+1}$ at $x = -3$

4) $y = -2x^2 - 16x - 33$ at $x = -3$

For each problem, find the equation of the line tangent to the function at the given point. Your answer should be in point-slope form.

5) $y = -\frac{2}{x-1}$ at $\left(-3, \frac{1}{2}\right)$

6) $y = -x^3 + 3x^2 - 6$ at $(-1, -2)$

7) $y = \frac{2}{x^2-4}$ at $\left(-3, \frac{2}{5}\right)$

8) $y = -\frac{2}{x-3}$ at $(1, 1)$

9) $y = x^2 - 2x - 4$ at $(1, -5)$

10) $y = -x^3 - 14x^2 - 60x - 75$ at $(-3, 6)$

11) $y = -2x^2 - 8x - 10$ at $(-2, -2)$

~~12) $y = -(2x+2)^{\frac{2}{3}}$ at $(3, -4)$~~

OMIT