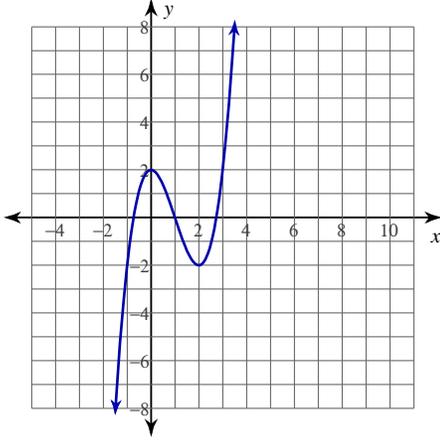


Tangent Lines

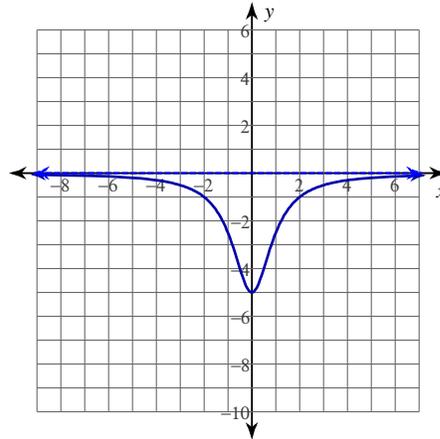
Date _____ Period _____

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

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



2) $y = -\frac{5}{x^2 + 1}$ at $(-1, -\frac{5}{2})$



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

4) $y = -\frac{3}{x^2 - 25}$ at $(-4, \frac{1}{3})$

5) $y = -\frac{3}{x^2 - 4}$ at $(1, 1)$

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

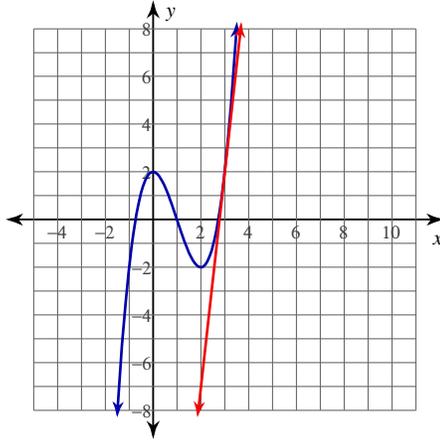
7) $y = \ln(-x)$ at $(-2, \ln 2)$

8) $y = -2\tan(x)$ at $(-\pi, 0)$

Tangent Lines

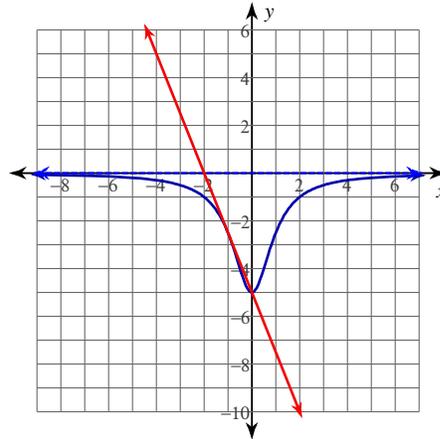
For each problem, find the equation of the line tangent to the function at the given point. Your answer should be in slope-intercept form.

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



$$y = 9x - 25$$

2) $y = -\frac{5}{x^2 + 1}$ at $(-1, -\frac{5}{2})$



$$y = -\frac{5}{2}x - 5$$

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

$$y = 4x - 6$$

4) $y = -\frac{3}{x^2 - 25}$ at $(-4, \frac{1}{3})$

$$y = -\frac{8}{27}x - \frac{23}{27}$$

5) $y = -\frac{3}{x^2 - 4}$ at $(1, 1)$

$$y = \frac{2}{3}x + \frac{1}{3}$$

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

$$y = \frac{1}{2}x + 3$$

7) $y = \ln(-x)$ at $(-2, \ln 2)$

$$y = -\frac{1}{2}x + \ln 2 - 1$$

8) $y = -2\tan(x)$ at $(-\pi, 0)$

$$y = -2x - 2\pi$$