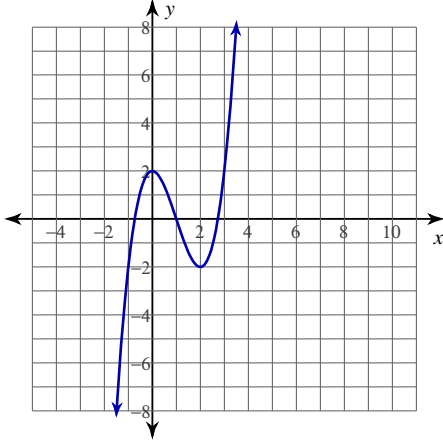


## Tangent Lines

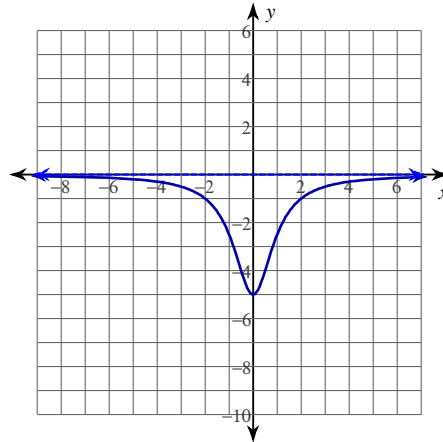
Date \_\_\_\_\_ Period \_\_\_\_\_

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  $(4, 5)$

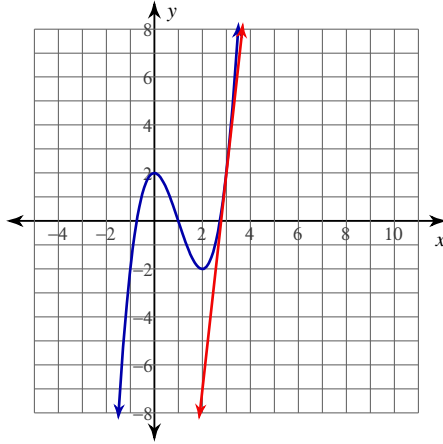
7)  $y = \ln(-x)$  at  $(-2, \ln 2)$

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

## Tangent Lines

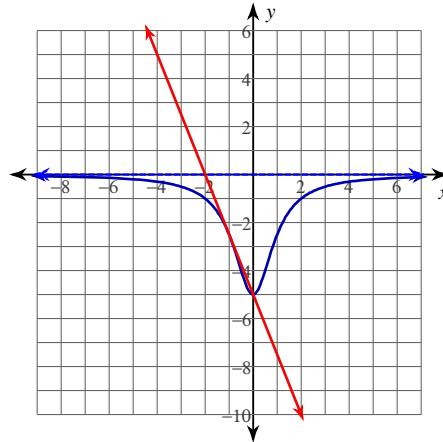
For each problem, find the equation of the line tangent to the function at the given point. Your answer should be in slope-intercept form.

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  $(-\pi, 0)$

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