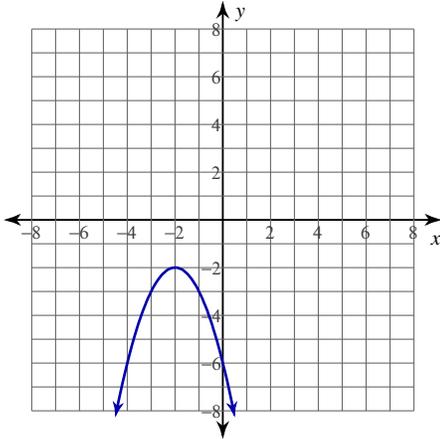


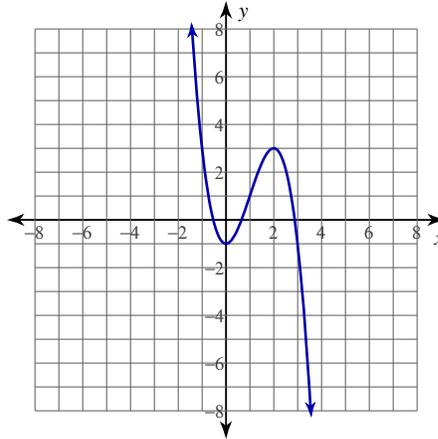
## Horizontal Tangents

For each problem, find the points where the tangent line to the function is horizontal.

1)  $y = -x^2 - 4x - 6$



2)  $y = -x^3 + 3x^2 - 1$



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

4)  $y = \frac{1}{x^2 - 1}$

For each problem, find the points where the tangent line to the function is horizontal. Indicate if no horizontal tangent line exists.

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

6)  $y = -x^3 + \frac{9x^2}{2} - 12x - 3$

7)  $y = -\frac{2}{x-3}$

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

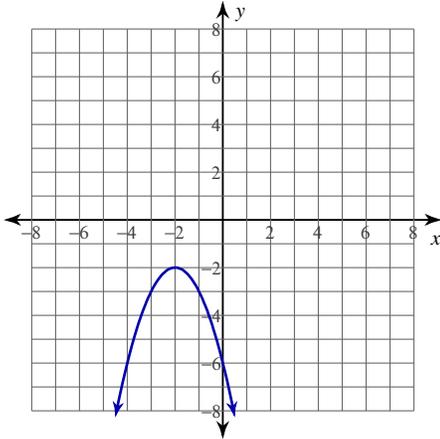
9)  $y = (-2x + 4)^{\frac{1}{2}}$

10)  $y = -\csc(x); [-\pi, \pi]$

## Horizontal Tangents

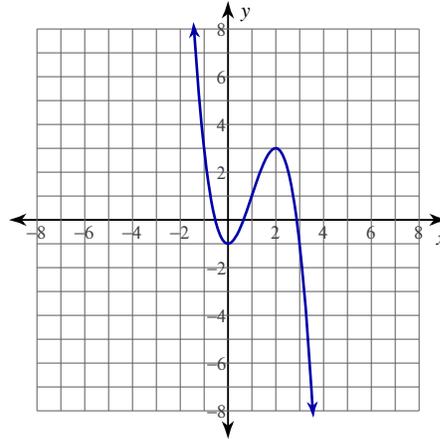
For each problem, find the points where the tangent line to the function is horizontal.

1)  $y = -x^2 - 4x - 6$



$(-2, -2)$

2)  $y = -x^3 + 3x^2 - 1$



$(0, -1), (2, 3)$

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

$(0, -2), \left(\frac{2}{3}, -\frac{50}{27}\right)$

4)  $y = \frac{1}{x^2 - 1}$

$(0, -1)$

For each problem, find the points where the tangent line to the function is horizontal. Indicate if no horizontal tangent line exists.

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

$(0, 2), \left(\frac{4}{3}, \frac{22}{27}\right)$

6)  $y = -x^3 + \frac{9x^2}{2} - 12x - 3$

No horizontal tangent line exists.

7)  $y = -\frac{2}{x-3}$

No horizontal tangent line exists.

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

$(0, -1)$

9)  $y = (-2x + 4)^{\frac{1}{2}}$

No horizontal tangent line exists.

10)  $y = -\csc(x); [-\pi, \pi]$

$\left(-\frac{\pi}{2}, 1\right), \left(\frac{\pi}{2}, -1\right)$