

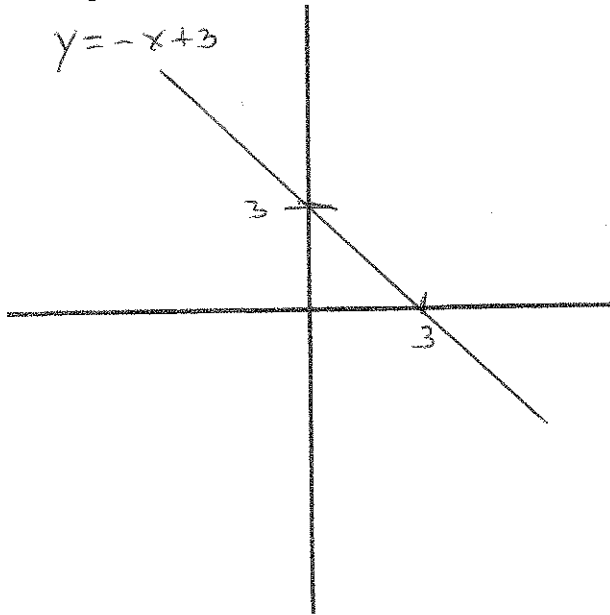
Name Answer

1. Find the limit (or say that it doesn't exist) :

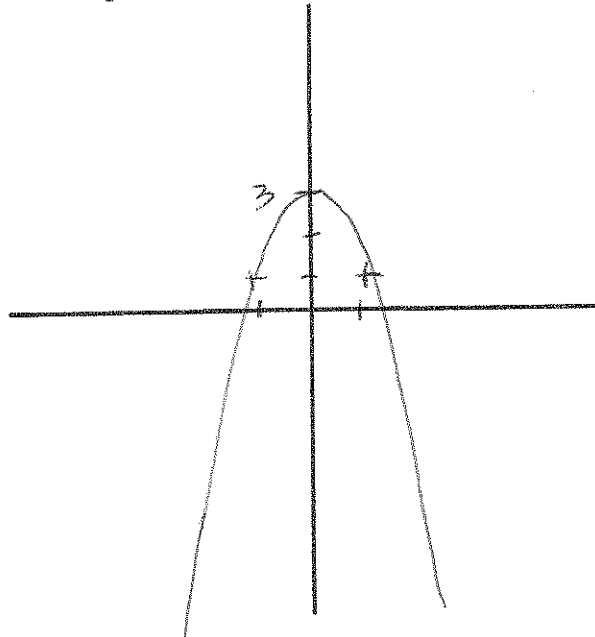
$$\lim_{x \rightarrow 2} f(x), \text{ where } f(x) = \begin{cases} x^2+1, & x > 2 \\ 4, & x = 2 \\ x+3, & x < 2 \end{cases} \quad \lim_{x \rightarrow 2} f(x) = \frac{5}{3}$$

2. Sketch the graph of:

a.  $y + x = 3$



b.  $y = -2x^2 + 3$



3. Find the equation of the straight line which passes through the point (2, -3) and is parallel to:

a.  $y = 3x - 4$

b. the x-axis.

a.  $m = 3$

b.  $y = -3$

$$y - (-3) = 3(x - 2)$$

$$y + 3 = 3x - 6$$

$$y = 3x - 9$$

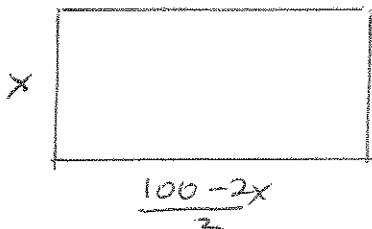
4. What is the domain of the function

$$f(x) = \frac{x}{\sqrt{x-1}}$$

$$x-1 > 0$$

$$x > 1 \text{ or } (1, \infty)$$

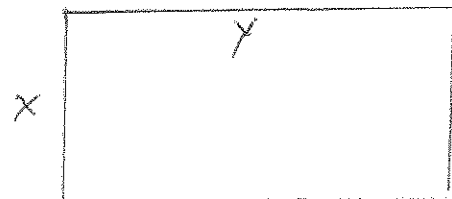
5) 5. A rectangular field is to be fenced with 100 feet of fence. Write an expression for the area of the field as a function of one of its sides.



$$A = x \left( \frac{100-2x}{2} \right)$$

$$= x(50-x) \quad 0 \leq x \leq 50$$

OK



$$2x + 2y = 100$$

$$A = xy$$

$$x + y = 50$$

$$y = 50 - x$$

$$A = x(50-x)$$

$$0 \leq x \leq 50$$