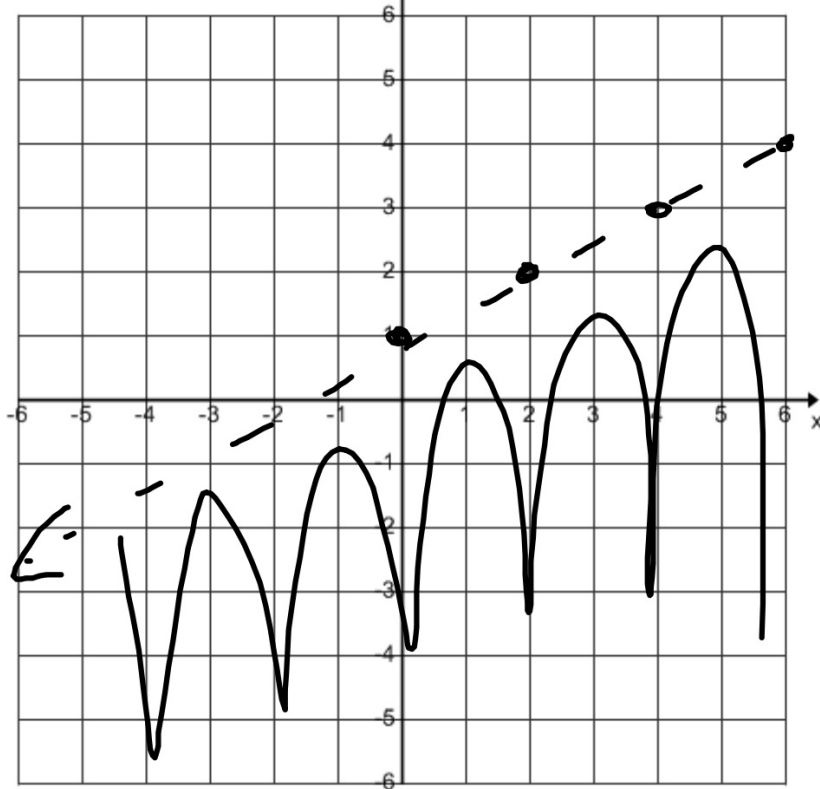
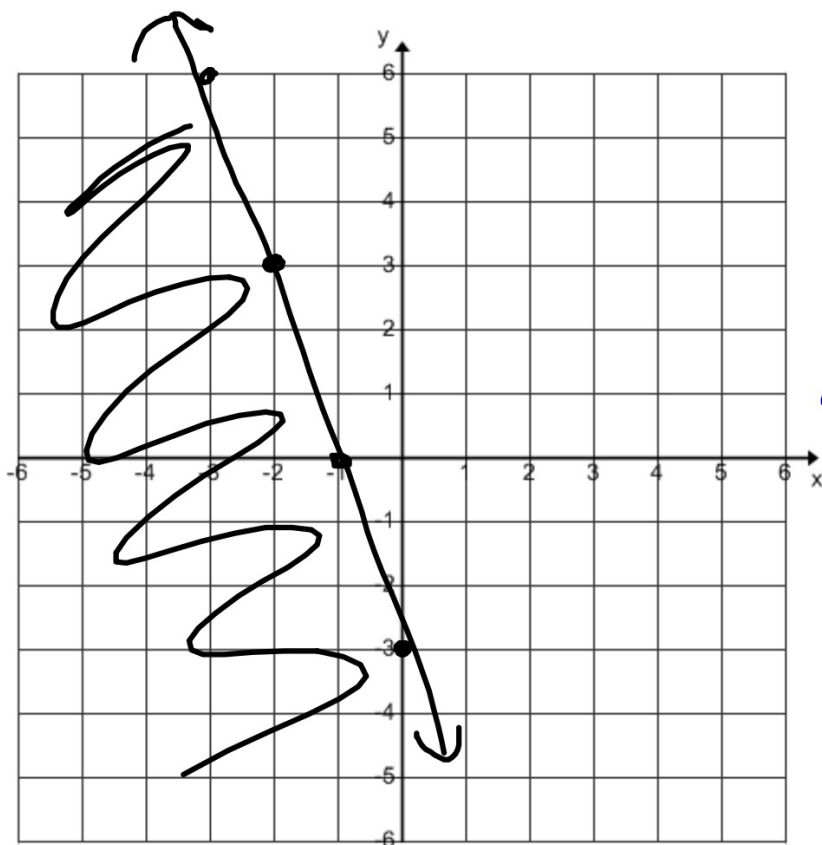


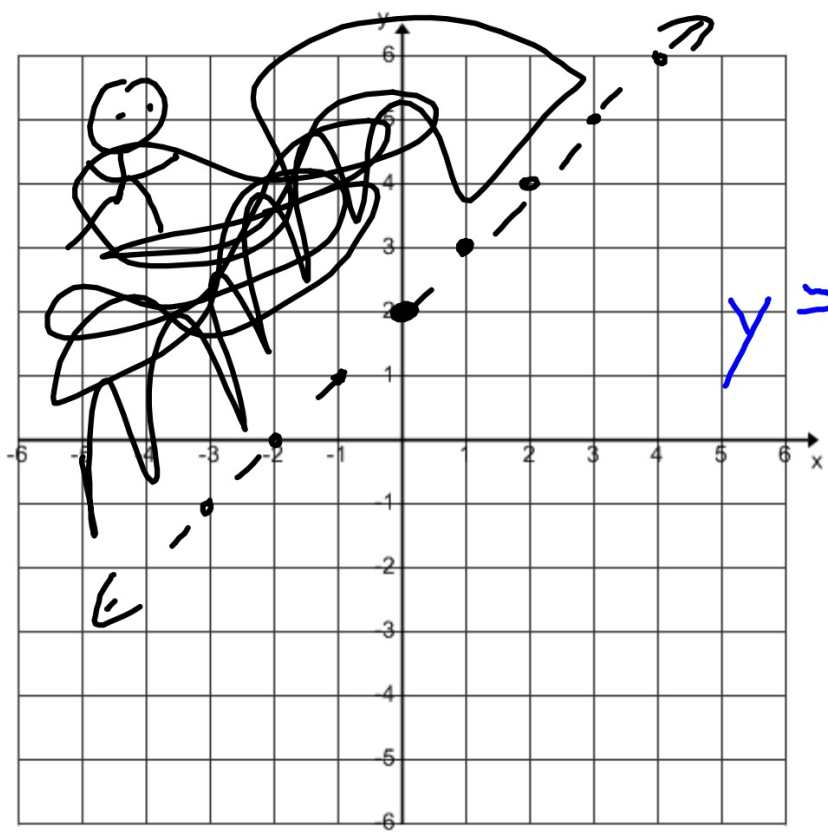
10-11-17 1st Trig



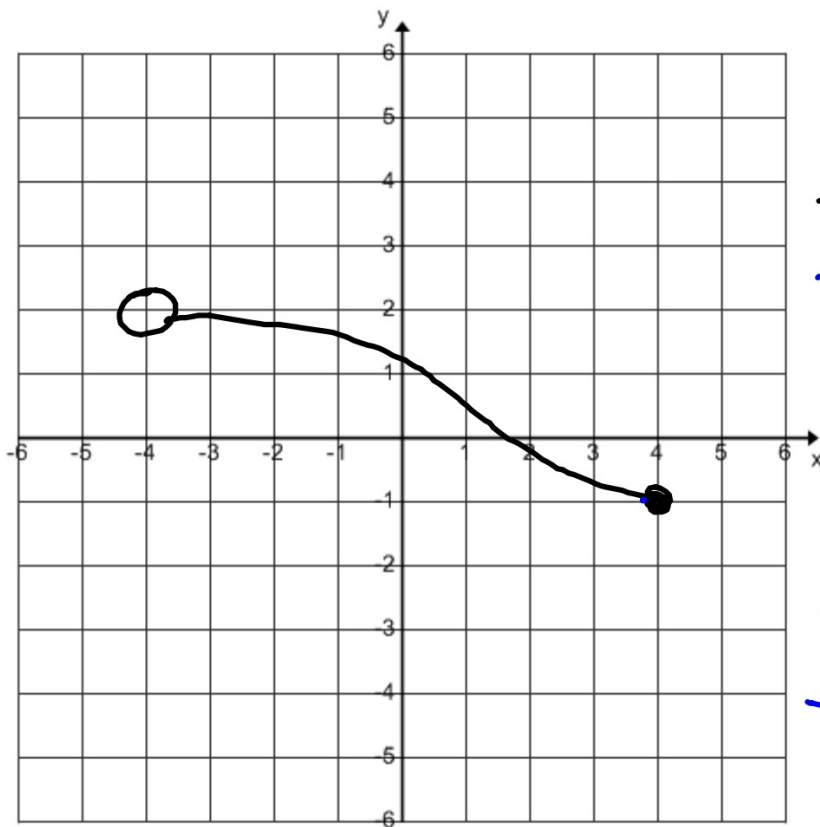
$$y < \frac{1}{2}x + 1$$



$$y \leq -3x - 3$$



$$y = x + 2$$

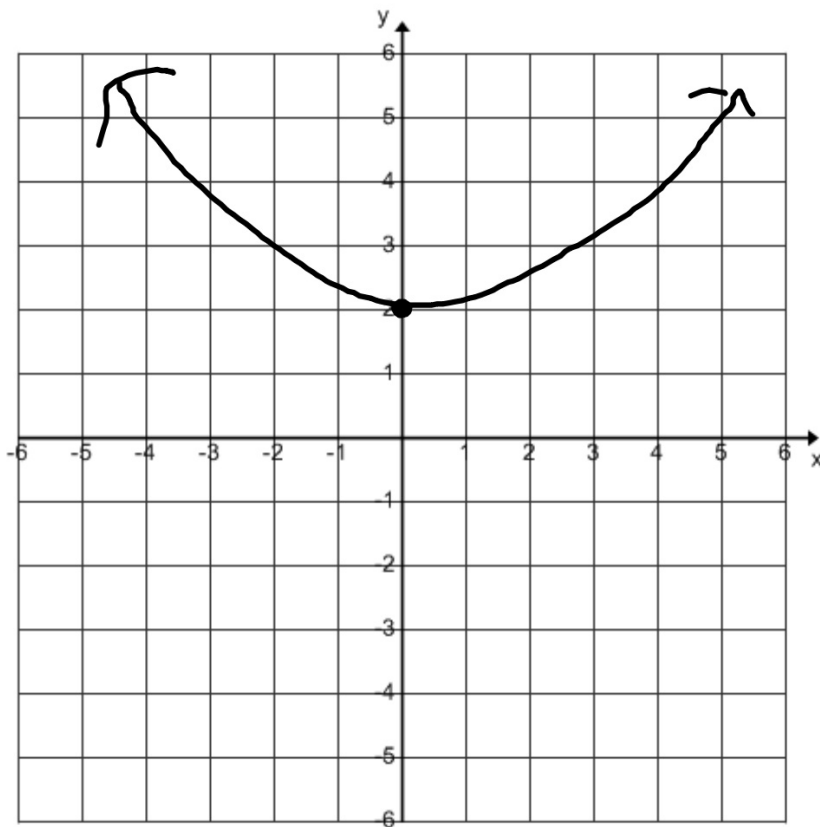


Domain

$$-4 < x \leq 4$$

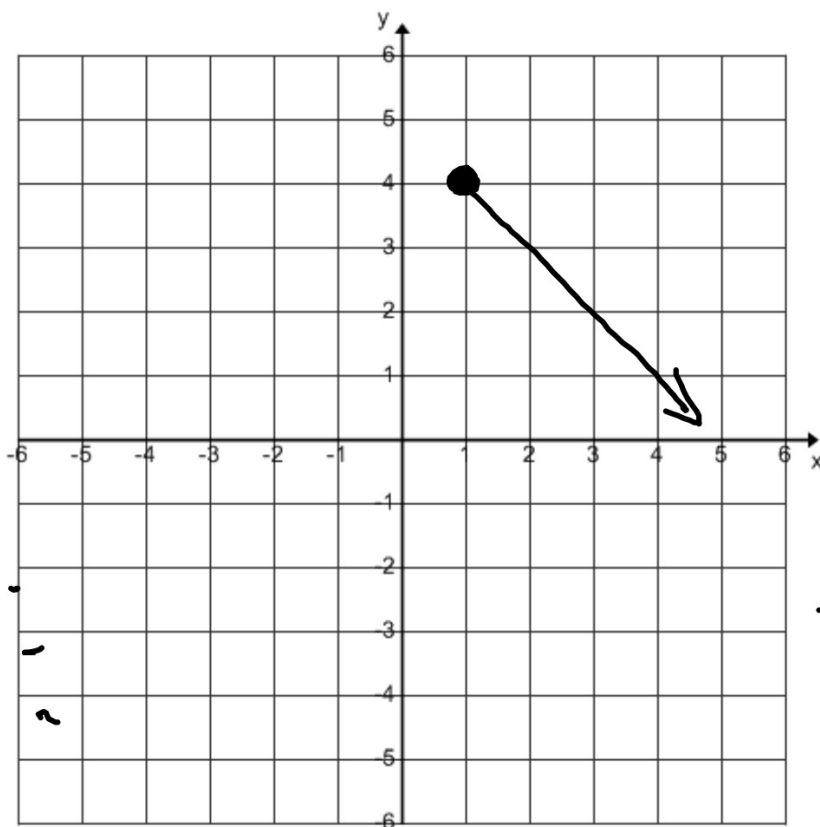
Range

$$-1 \leq y < 2$$



Domain
 \mathbb{R}

Range
 $y \geq 2$

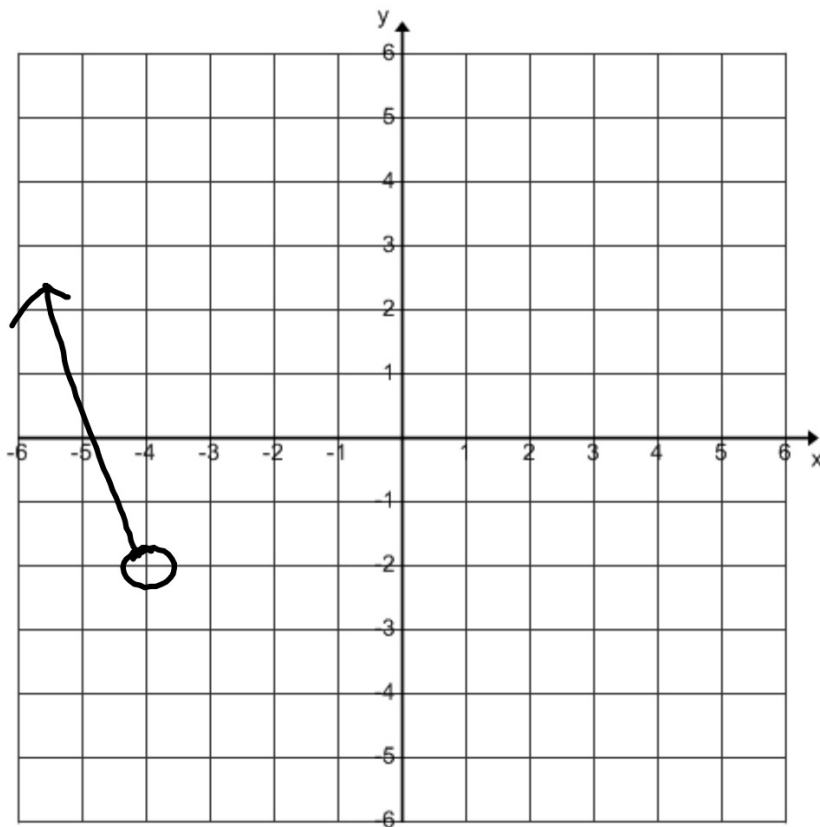


Domain

$$x \geq 1$$

Range

$$y \leq 4$$



Domnio

$$x < -4$$

Range

$$y > -2$$

$$\textcircled{1} f(x) = -3x^2$$

$$f(-1) = -3(-1)^2$$
$$= -3$$

$$\textcircled{2} f(x) = -4x + 2$$
$$g(x) = -3x - 1$$

$$f(g(x))$$

$$f(-3x-1) = -4 \boxed{} + 2$$

$$-4(-3x-1) + 2$$

$$12x + 4 + 2$$

$$12x + 6$$

$$\textcircled{3} h(x) = 3x - 5$$

$$h(h(h(x)))$$

$$h(h(3x-5)) = 3 \boxed{3x-5} - 5$$

$$9x - 15 - 5$$

$$9x - 20$$

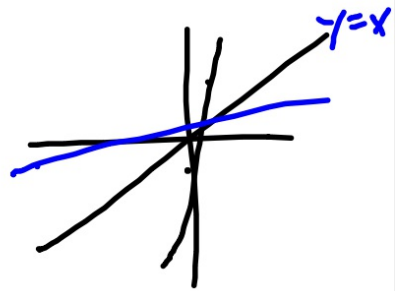
$$h(9x-20)$$

$$= 3 \boxed{9x-20} - 5$$

$$27x - 60 - 5$$

$$27x - 65$$

④ Find $f^{-1}(x)$ of
 $f(x) = 4x - 1$

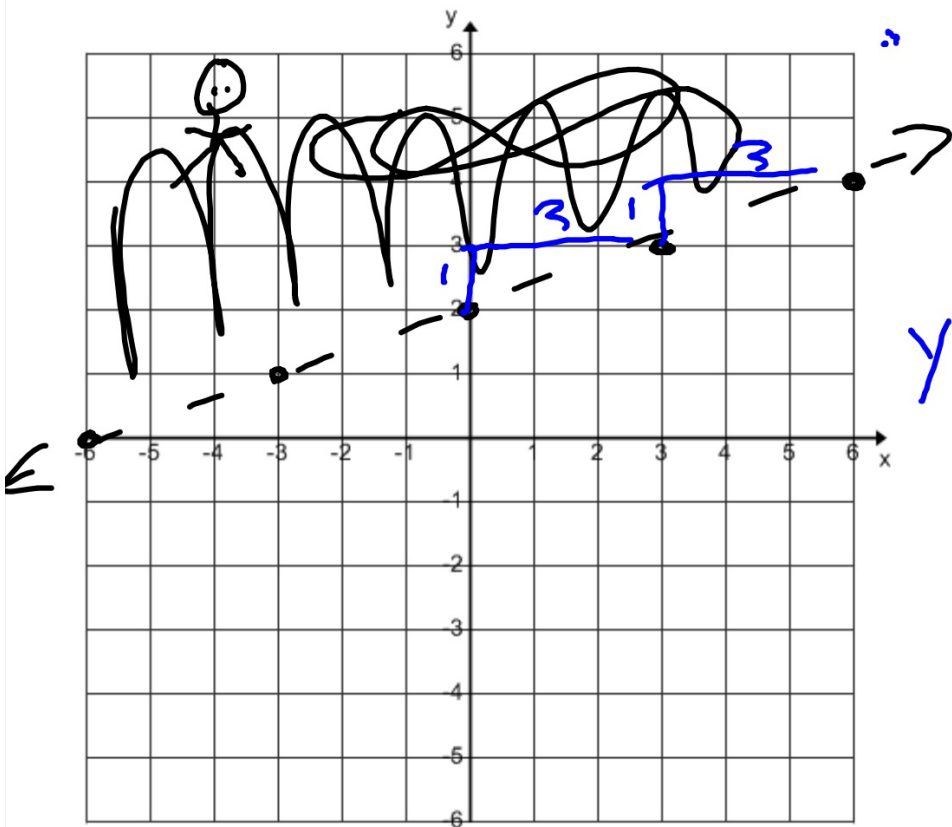


① $y = 4x - 1$

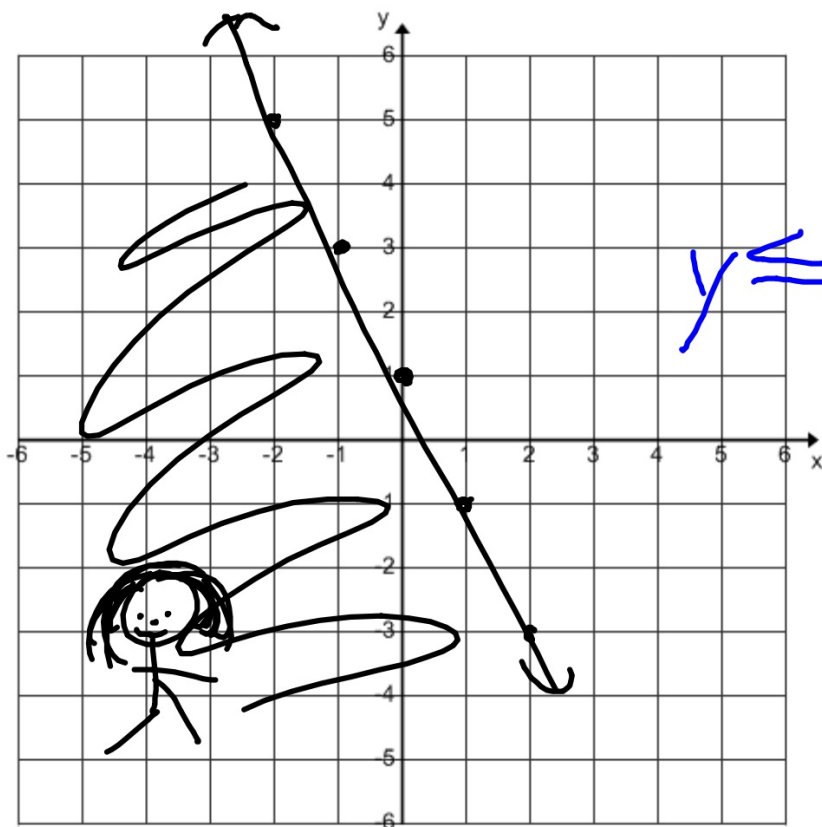
② $x = 4y - 1$

$\frac{x+1}{4} = \frac{4y}{4}$

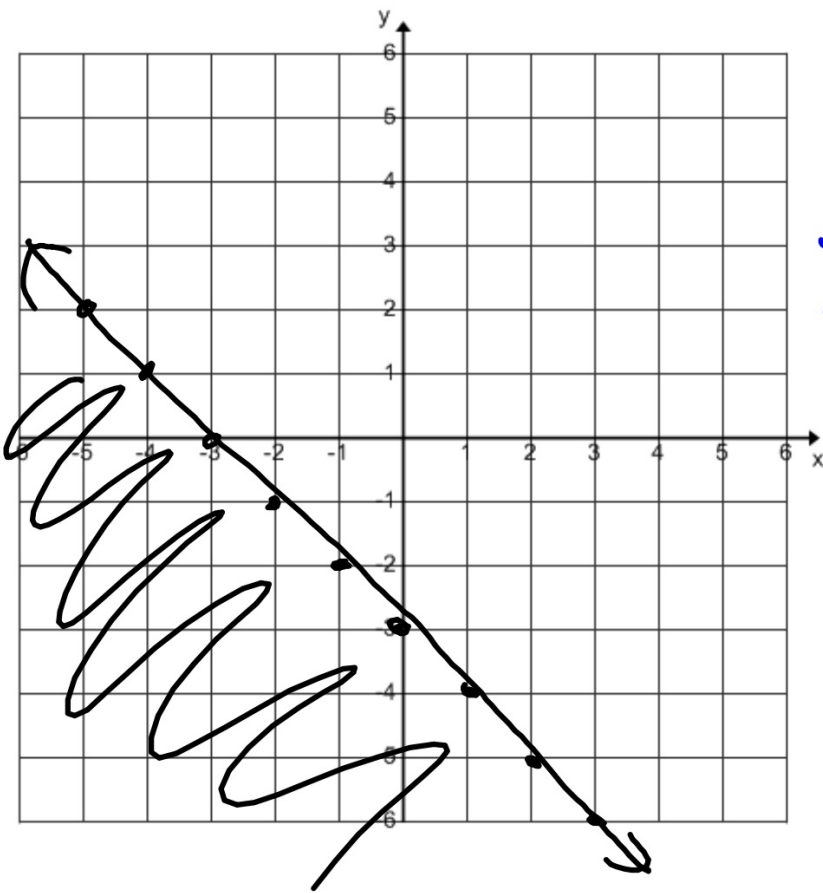
$f^{-1}(x) = \frac{x+1}{4}$



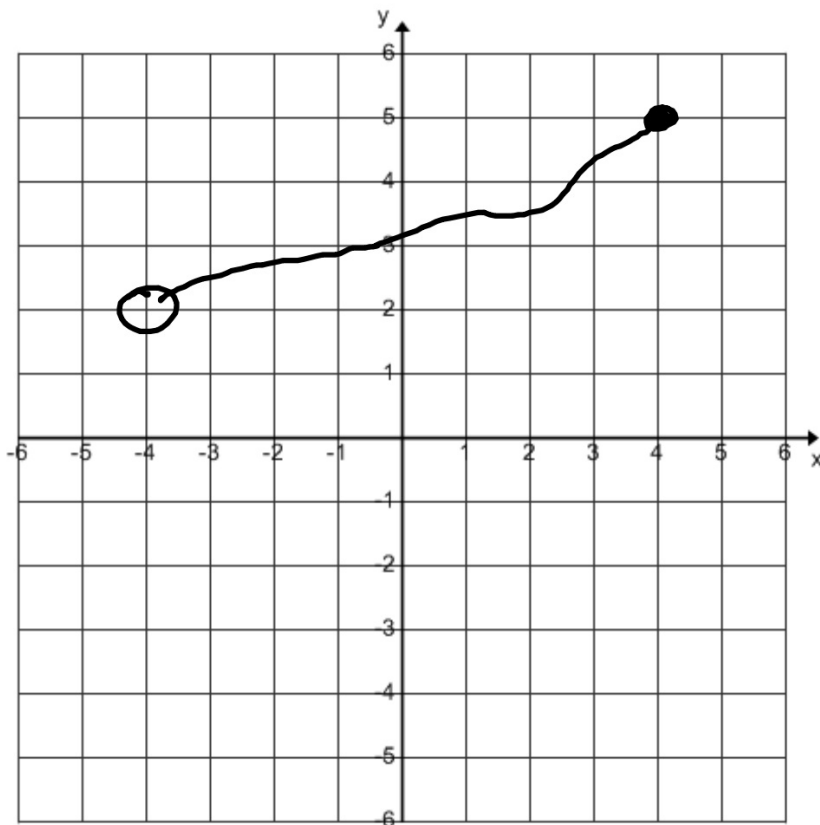
$$y > \frac{1}{3}x + 2$$



$$y \leq -2x + 1$$

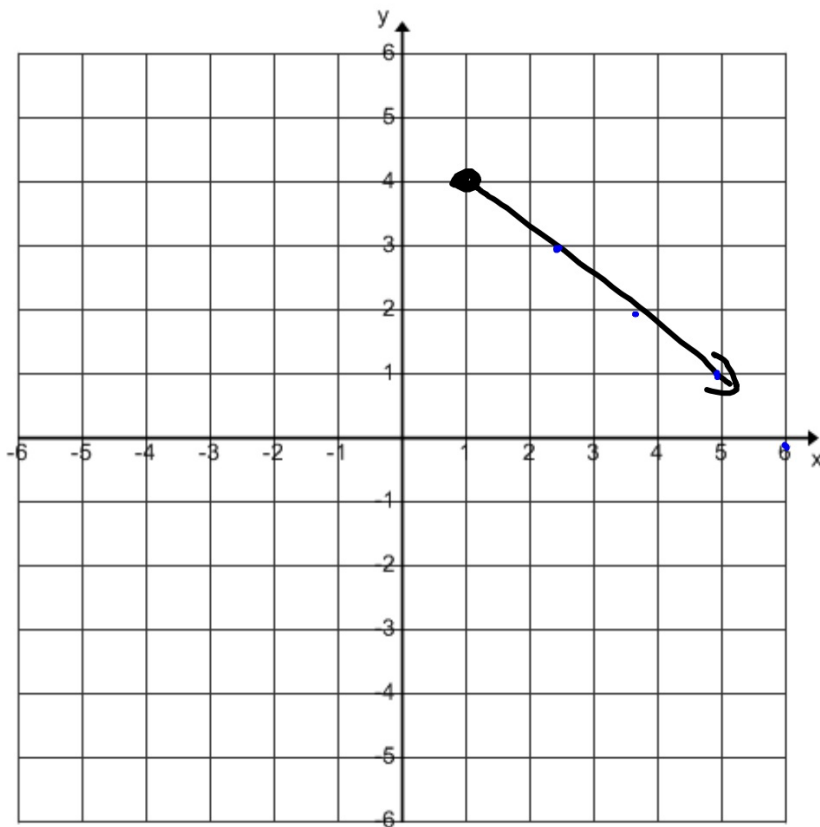


$$y \leq -x - 3$$



Domain
 $-4 < x \leq 4$

Range
 $2 < y \leq 5$

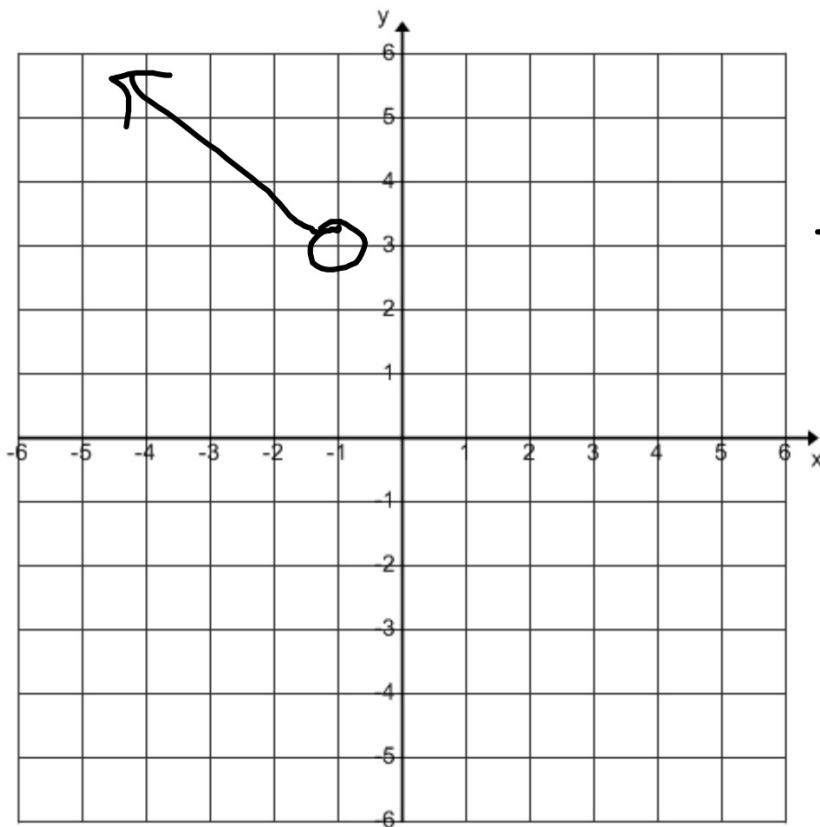


Domain

$$x \geq 1$$

Range

$$y \leq 4$$

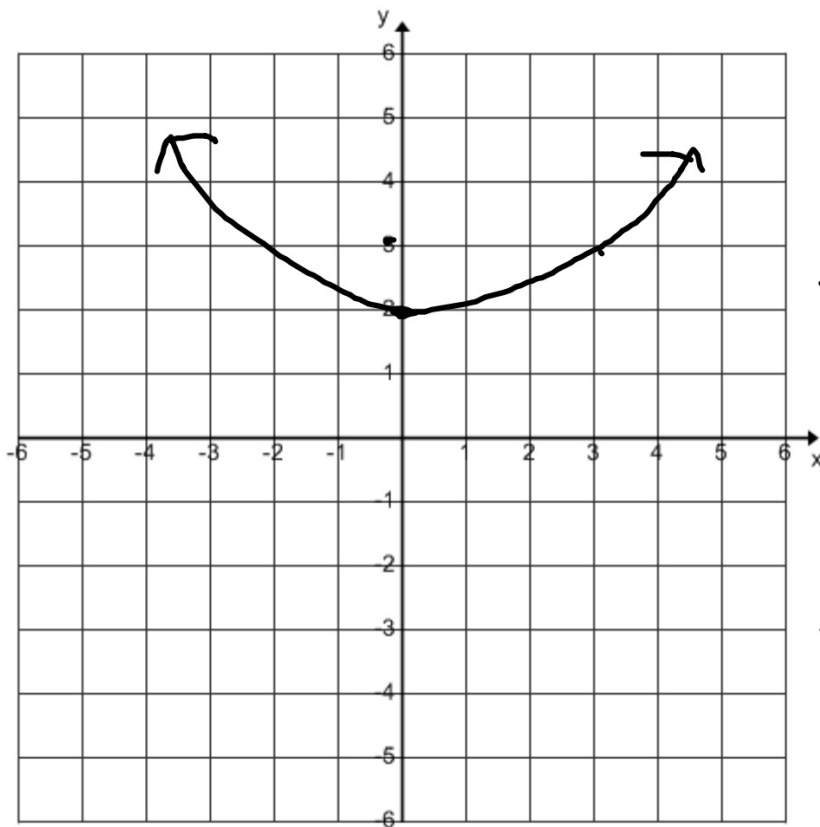


Domain

$$x < -1$$

Range

$$y > 3$$



Domain
 \mathbb{R}

Range
 $y \geq 2$

$$f(x) = -3x^2 - x$$

$$\begin{aligned} f(-2) &= -3(-2)^2 - -2 \\ &= -3 \cdot 4 + 2 \\ &= -12 + 2 \\ &= -10 \end{aligned}$$

$$f(x) = 4x - 10$$

$$\begin{aligned} f(2x-1) &= 4 \cdot \boxed{(2x-1)} - 10 \\ &= 8x - 4 - 10 \\ &= 8x - 14 \end{aligned}$$

Domain

$$\textcircled{1} f(x) = \frac{x}{7} \quad \mathbb{R}$$

$$\textcircled{2} f(x) = \frac{x^{10}}{x-8}$$

$$\begin{aligned} & x-8 \neq 0 \\ & \quad \quad \quad +8 \quad +8 \\ & \mathbb{R} \text{ except } x \neq 8 \end{aligned}$$

$$\textcircled{3} \quad f(x) = \sqrt{2x-7} \geq 0$$

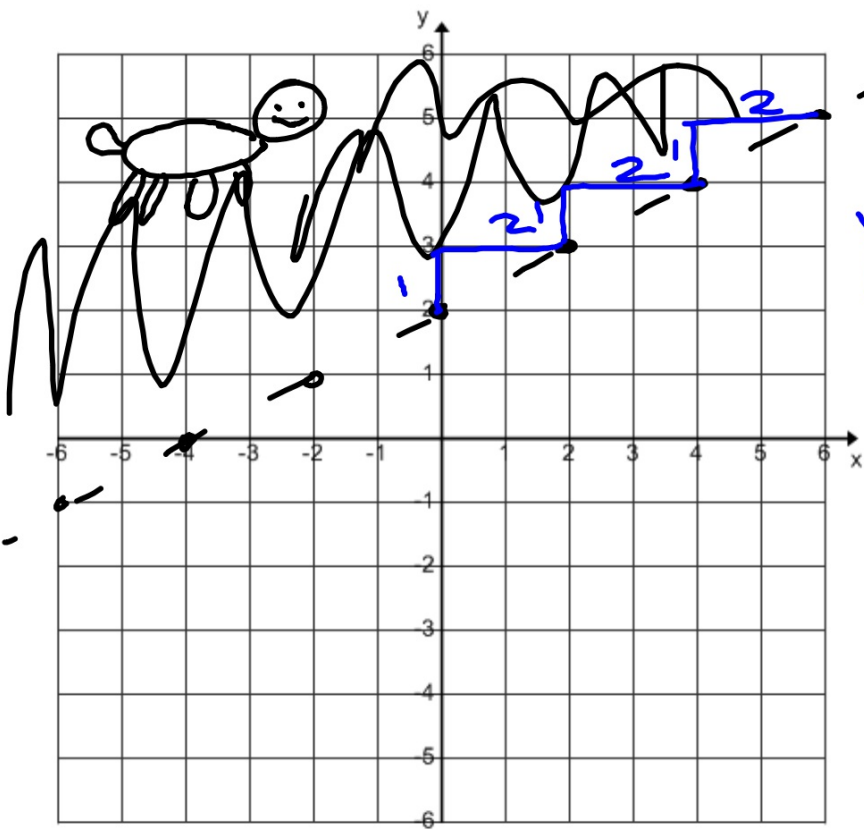
$$2x - 7 \geq 0$$

$$+7 \quad +7$$

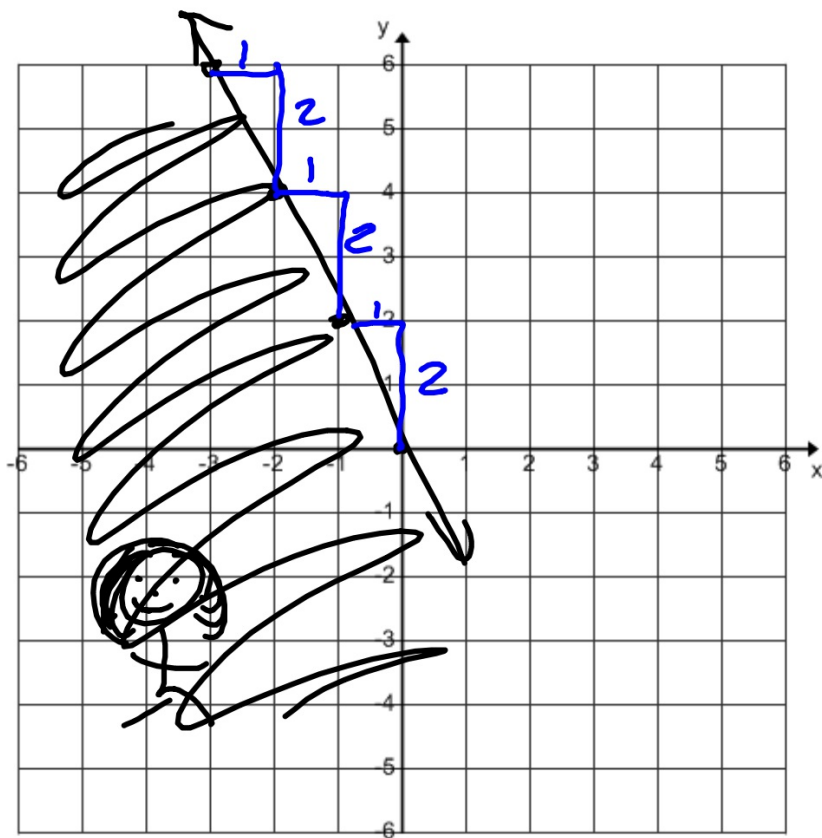
$$\frac{2x}{2} \geq \frac{7}{2}$$

$$\text{Ans: } x \geq 3.5$$

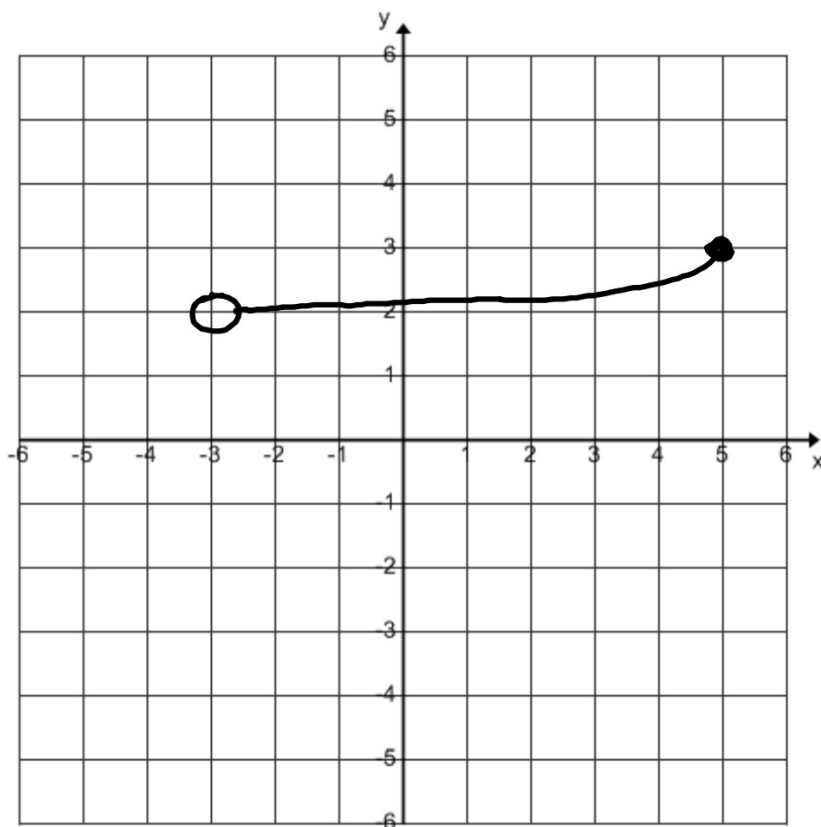
10-11-17 4^{ta} Triq



$$y \geq \frac{1}{2}x + 2$$



$$y \leq -2x$$

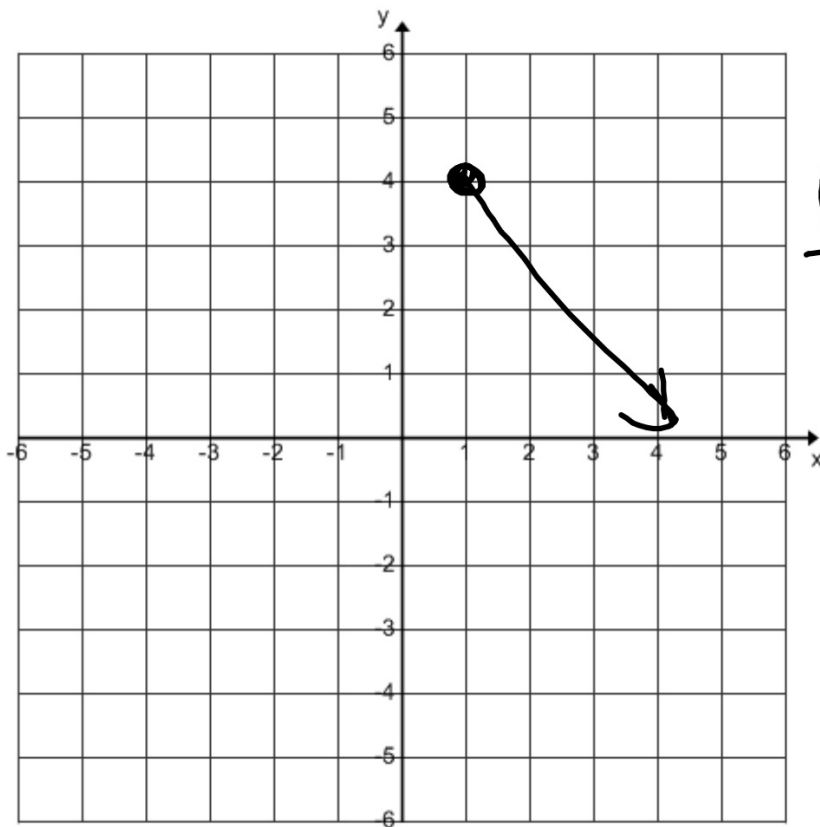


Domain

$$-3 < x \leq 5$$

Range

$$2 < y \leq 3$$



Domain

$$x \geq 1$$

Range

$$y \leq 4$$

$$\textcircled{1} f(x) = 3x^2 - x$$

$$f(-4)$$

$$= -3(-4)^2 - -4$$

$$-3 \cdot 16 + 4$$

$$-48 + 4$$

$$-44$$

$$\textcircled{2} f(x) = 2x - 1$$

$$f(8x+2) = 2 \cdot \boxed{(8x+2)} - 1$$

$$16x+4-1$$

$$16x+3$$

$$\textcircled{3} f(x) = 5x+1$$

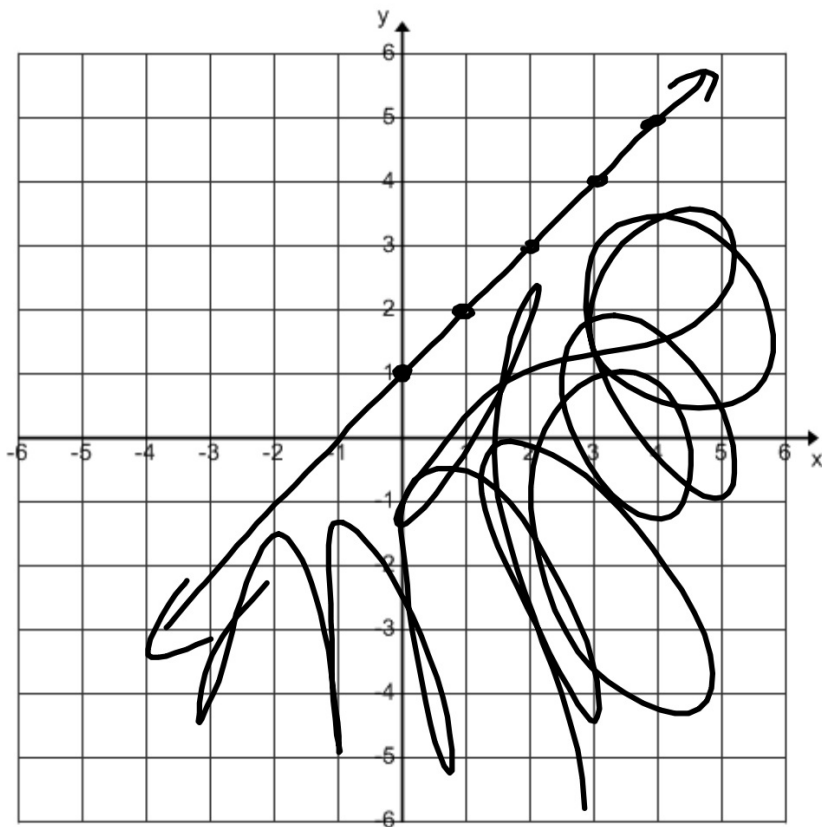
$$f(\boxed{f(x)})$$

↓

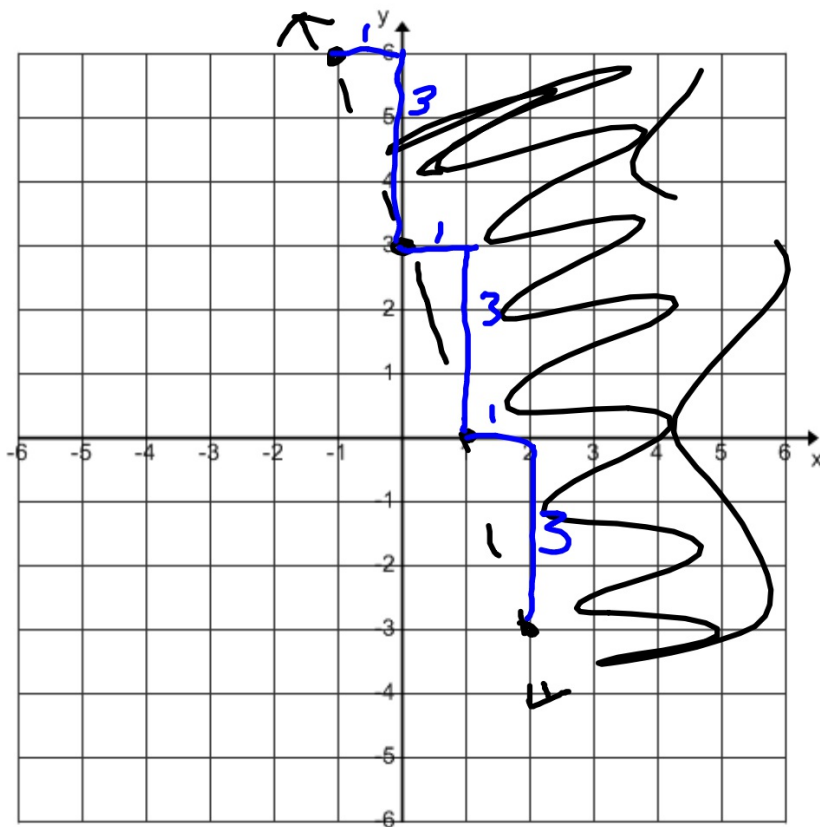
$$f(5x+1) = 5 \cdot \boxed{(5x+1)} + 1$$

$$25x+5+1$$

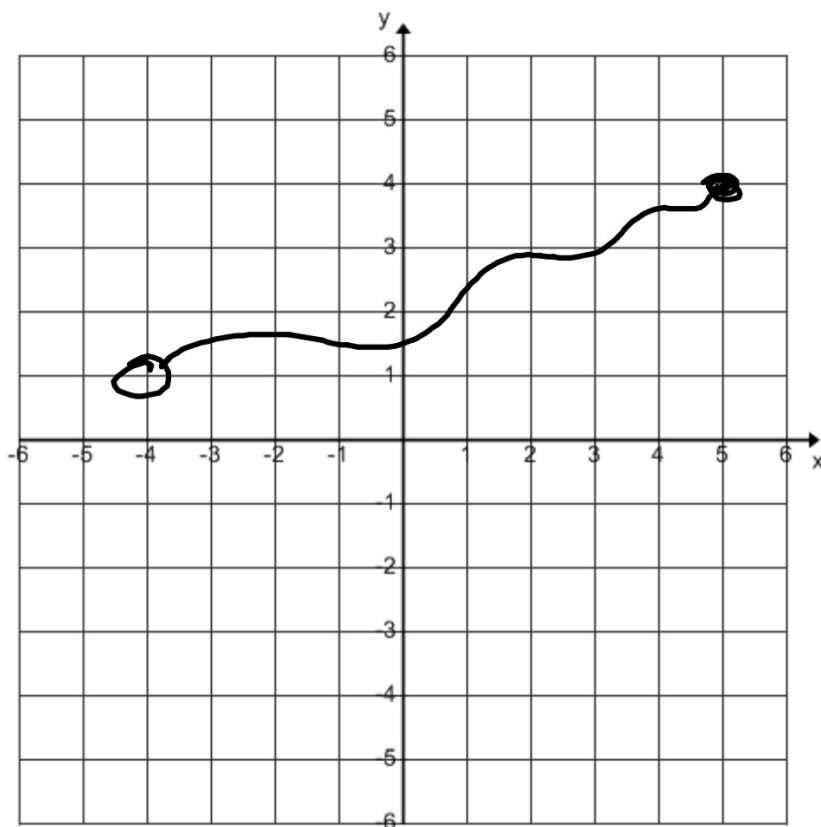
$$25x+6$$



$$y \leq x + 1$$



$$y = -3x + 3$$



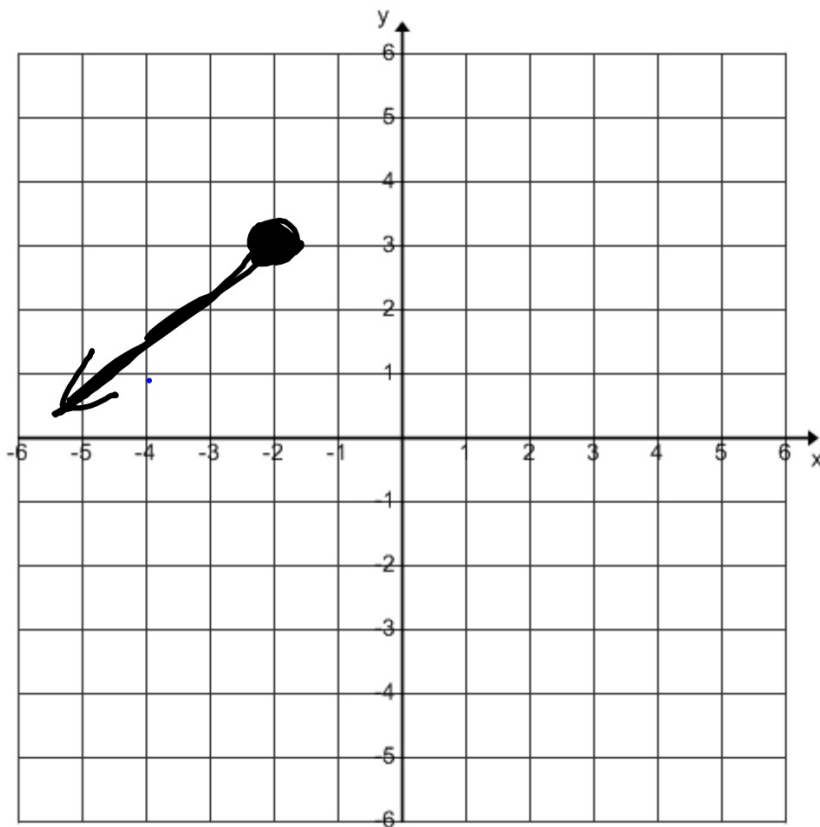
Domain

$$-4 < x \leq 5$$

Range

$$1 < y \leq 4$$

^



Domain
 $x \leq -2$

Range
 $y \leq 3$

$$\textcircled{1} f(x) = 5x - 2$$

$$f(3x^2 - x + 1)$$

$$= 5 \cdot \boxed{(3x^2 - x + 1)} - 2$$

$$15x^2 - 5x + 5 - 2$$

$$15x^2 - 5x + 3$$

$$\textcircled{2} f(x) = 8x - 5$$

$$f(f(x)) =$$

$$f(8x - 5) = 8 \cdot \boxed{(8x - 5)} - 5$$

$$64x - 40 - 5$$

$$64x - 45$$

$$\textcircled{3} \text{ Give } f^{-1}(x) \text{ of } f(x) = 8x - 1$$

$$\textcircled{1} y = 8x - 1$$

$$\textcircled{2} x = 8y - 1$$

$$\begin{array}{r} +1 \quad +1 \\ \hline x + 1 = 8y \end{array}$$

$$f^{-1}(x) = \frac{x+1}{8}$$

$$\textcircled{4} f(x) = \frac{2}{x-1} \quad \text{Domain?}$$

$$\begin{array}{r} x-1=0 \\ +1 \quad +1 \\ \hline \end{array}$$

\mathbb{R} except $x \neq 1$

$$\textcircled{5} f(x) = \sqrt{2x-9}$$

$$x \geq 4.5$$

$$\begin{array}{r} 2x-9 \geq 0 \\ +9 \quad +9 \\ \hline \end{array}$$

$$2x \geq 9$$

$$\mathbb{R}: x \geq 4.5$$