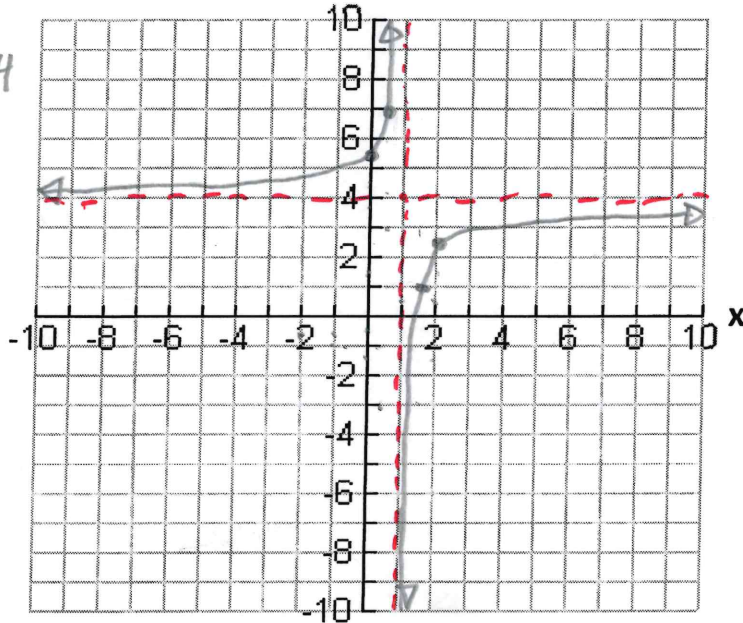


## Quiz

1. Graph the function  $f(x) = -\frac{3}{2x-2} + 4$  and state the domain and range.

$$y = -3 \frac{1}{2(x-1)} + 4$$

h  $\left[ \begin{array}{l} k = 2 \\ d = 1 \end{array} \right.$   
 v  $\left[ \begin{array}{l} a = -3 \\ c = 4 \end{array} \right.$



x	y = 1/x
-2	-1/2
-1	-1
0	DNE
1	1
2	1/2

Domain:  $\{x \in \mathbb{R} \mid x \neq 1\}$

Range:  $\{y \in \mathbb{R} \mid y \neq 4\}$

2. Evaluate the following:

$$f(x) = 3x - 4$$

$$g(x) = x^2 - 2x + 1$$

a)  $f^{-1}(8)$

$$f(x) = 3x - 4$$

$$y = 3x - 4$$

$$3y - 4 = x$$

$$\frac{3y}{3} = \frac{x+4}{3}$$

$$y = \frac{x+4}{3} \leftarrow \frac{1}{3}x - \frac{4}{3}$$

$$f^{-1}(x) = \frac{x+4}{3}$$

b)  $f(g(x)) = f(x^2 - 2x + 1)$

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

$$= 3x^2 - 6x + 3 - 4$$

$$= 3x^2 - 6x - 1$$

$$f^{-1}(8) = \frac{(8)+4}{3}$$

$$= 4$$