

Review

September-17-13
6:22 PM

1. Identify whether each relation is a function or not.

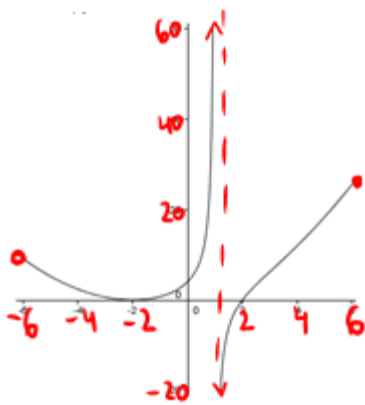
Explain your thinking.

- The relation between shoe size and height of students in the school.
- The relation between distance and time if Brian walks at 5 km/h.
- The relation between number of people in the family and number of rooms in their house.

2. For $g(x) = \frac{x}{3} - 2$ and $f(x) = x^2 + 6x - 5$ find

- $f(\sqrt{2})$
- $3f(2)$
- $g^{-1}(x)$
- $g^{-1}(1) + g(1)$
- $g[g^{-1}(3)]$

3. Find domain and range for:



4. For the function $f(x) = \frac{1}{x}$ with following transformations:

- Reflected in x-axis
- vertically compressed (choose 4 or $\frac{1}{4}$)
- horizontally compressed (choose 5 or $\frac{1}{5}$)
- shifted right by 5
- shifted up by 6

- rewrite the equation with transformations
- sketch (can ignore stretches/compressions)
- state domain and range

5. For the function $i(x) = 4\sqrt[3]{6-2x} - 1$
- state transformations
 - sketch
 - state domain and range
 - Find $i^{-1}(x)$
 - Sketch the inverse

6. a) Find the inverse for
 $i(x) = 3x^2 + 6x + 5$
- What should be the restricted domain of the original to make the inverse a function?
 - Sketch the original function only on your chosen domain and then sketch the corresponding inverse