

Exercise 9

Write a formula for the function obtained when the graph of $f(x) = \frac{1}{x^2}$ is shifted up 2 units and to the left 4 units.

Solution

To shift the graph up 2 units, add 2 to the function.

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

To also shift the graph to the left 4 units, replace x with $x + 4$.

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

