

Exercise 26

For the following exercises, find the average rate of change of the functions from $x = 1$ to $x = 2$.

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

Solution

Calculate the average rate of change of $f(x)$ from $x = 1$ to $x = 2$.

$$\begin{aligned}\frac{f(2) - f(1)}{2 - 1} &= \frac{\left[-\frac{2}{(2)^2}\right] - \left[-\frac{2}{(1)^2}\right]}{2 - 1} \\ &= \frac{\left(-\frac{2}{4}\right) - \left(-\frac{2}{1}\right)}{1} \\ &= -\frac{1}{2} + 2 \\ &= \frac{3}{2}\end{aligned}$$