

1. Find the domain of the function $g(x) = \sqrt{5 - x}$.

2. Let $f(x) = x^2 - 1$ and $g(x) = 2x + 1$. For each of the following, find the function and state its domain.

(a) $\frac{f}{g}$

(b) $f \circ g$

3. Find $\lim_{x \rightarrow 0} \frac{2x}{\sin(6x)}$

4. Find $\lim_{x \rightarrow -4} \frac{\frac{1}{4} + \frac{1}{x}}{x + 4}$.