



O Level Maths

Topic: Domain and Range

Instructions

Answer all questions. Show all necessary steps. Use the appropriate methods to find the domain and range of each function.

Practice Problems

Finding the Domain:

1. Find the domain of the function $f(x) = \frac{1}{x-3}$.
2. Find the domain of the function $g(x) = \sqrt{x+4}$.
3. Find the domain of the function $h(x) = \frac{1}{x^2+1}$.
4. Determine the domain of the function $f(x) = \frac{1}{\sqrt{x+5}}$.

Finding the Range:

5. Find the range of the function $f(x) = 2x + 3$.
6. Find the range of the function $g(x) = x^2 - 4$.
7. Find the range of the function $h(x) = \sqrt{x}$ for $x \geq 0$.
8. Find the range of the function $f(x) = \frac{1}{x}$.

Multiple-Choice Questions

1. The domain of the function $f(x) = \frac{1}{x+2}$ is:
 - A. $x \neq -2$
 - B. $x \neq 2$
 - C. $x \geq -2$
 - D. $x \neq 0$
2. The range of the function $f(x) = x^2 + 3$ is:
 - A. $y \geq 3$
 - B. $y \geq 0$
 - C. $y \geq -3$
 - D. $y \in (-\infty, \infty)$
3. For the function $f(x) = \sqrt{x-1}$, the domain is:
 - A. $x \geq 1$
 - B. $x > 1$
 - C. $x \leq 1$
 - D. $x \geq 0$
4. The range of the function $f(x) = \frac{1}{x^2}$ is:
 - A. $y \leq 0$
 - B. $y \geq 0$
 - C. $y \in (-\infty, 0)$
 - D. $y \in (0, \infty)$
5. The domain of the function $f(x) = \frac{1}{x^2-9}$ is:
 - A. $x \neq 3$
 - B. $x \neq -3$
 - C. $x \neq 3, -3$
 - D. $x \geq -3$

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