



A Level Maths

Topic: Modulus Functions

Instructions

Answer all questions. Show complete working. Use modulus functions and their properties wherever appropriate.

Practice Questions

1. Solve the equation $|x - 3| = 5$.
2. Find the solution to $|2x + 1| = 7$.
3. If $f(x) = |x - 4|$, find:
 - (a) $f(3)$
 - (b) $f(5)$
4. Solve $|x + 2| - 3 = 0$.
5. Given the function $g(x) = |x^2 - 9|$, find the value of $g(4)$ and $g(-4)$.
6. Solve the inequality $|x - 1| \leq 4$.
7. Solve $|x + 5| > 2$.
8. For the function $f(x) = |x^2 - 4x + 3|$, find the values of $f(1)$, $f(2)$, and $f(3)$.

Multiple-Choice Questions

1. If $|x - 2| = 3$, then x can be:
 - A. 1 or 5
 - B. -1 or 5
 - C. -1 or 3
 - D. 2 or 3
2. The solution to the equation $|x + 3| = 6$ is:
 - A. $x = -9$ or $x = 3$
 - B. $x = -6$ or $x = 9$
 - C. $x = -3$ or $x = 6$
 - D. $x = -3$ or $x = 3$
3. The graph of $y = |x|$ is:
 - A. A straight line with a slope of 1
 - B. A V-shaped curve with the vertex at the origin
 - C. A straight line with a slope of -1
 - D. A U-shaped curve
4. If $|x + 4| = 2$, the value of x is:
 - A. 6 or -6
 - B. 2 or -2
 - C. -2 or -6
 - D. -6 or -2
5. The value of $|x - 5| + 3 = 0$ is:
 - A. No solution
 - B. $x = 5$
 - C. $x = -5$
 - D. $x = 0$

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