ILLINOIS ALGEBRA 2 · UNIT 2 · 10 QUESTIONS

Polynomials and Rational Functions — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 In simplest form, $\frac{x^2 - 25}{x + 5}$, for $x \neq -5$, is

- **A** x - 5
- **B** x + 25
- **C** x - 25
- **D** x + 5

Understand It with Pulse | Flag a mistake

2 For $(x + 3)^3(x - 1)$, the multiplicity of the zero -3 is

- A 3
- B 4
- C 1
- D 2

Understand It with Pulse | Flag a mistake

3 As $x \to -\infty$, the value of $2x^3 + x$ approaches

- A 2
- B positive infinity
- C negative infinity
- D 0

Understand It with Pulse | Flag a mistake

4 The graph of $y = \frac{x^2 - 9}{x + 3}$ has a hole at

- **A** x = 3
- **B** x = -3
- **C** x = 9
- **D** y = -3

Understand It with Pulse | Flag a mistake

5 The quotient of $(x^2 - 5x + 6) \div (x - 2)$ is

- **A** x + 3
- **B** x - 3
- **C** x + 2
- **D** x - 2

Understand It with Pulse | Flag a mistake

6 **The zeros of $x^2 + 9$ are**

- **A** 9, -9
- **B** none
- **C** 3, -3
- **D** 3i, -3i

Understand It with Pulse | Flag a mistake

7 **The sum $\frac{2}{x} + \frac{3}{x}$ is**

- **A** $\frac{1}{x}$
- **B** $\frac{5}{x}$
- **C** $\frac{6}{x}$
- **D** $\frac{5}{2x}$

Understand It with Pulse | Flag a mistake

8 The solution of $\frac{4}{x} = 2$ is

- **A** x = 8
- **B** x = 4
- **C** x = 2
- **D** x = 1

Understand It with Pulse | Flag a mistake

9 The graph below shows $y = x^3 - 3x$. The sum of its zeros is

ANSWER _____

Understand It with Pulse | Flag a mistake

10 **The product of the zeros of $x^2 - 4x + 3$ is**

A -4

B 3

C -3

D 4

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	A	**5.**	B	**9.**	0
2.	A	**6.**	D	**10.**	B
3.	C	**7.**	B		
4.	B	**8.**	C		

© 2026 Brett Robbins. All Rights Reserved.