Polynomials and Rational Functions, 10-question test — 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, x² - 25/x + 5, for x ≠ -5, is**

Question 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) $x + 5$

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

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

Question 2

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

A) 3

B) 4

C) 1

D) 2

A 3

B 4

C 1

D 2

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3 As x → -∞, the value of 2x³ + x approaches

Question 3

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

A) 2

B) positive infinity

C) negative infinity

D) 0

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

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4 The graph of y = x² - 9/x + 3 has a hole at

Question 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) $y = -3$

A x = 3

B x = -3

C x = 9

D y = -3

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

Question 5

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

A) $x + 3$

B) $x - 3$

C) $x + 2$

D) $x - 2$

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

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6 The zeros of x² + 9 are

Question 6

The zeros of $x^2 + 9$ are

A) $9, -9$

B) none

C) $3, -3$

D) $3i, -3i$

A 9, -9

B none

C 3, -3

D 3i, -3i

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7 The sum 2/x + 3/x is

Question 7

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

A) $\frac{1}{x}$

B) $\frac{5}{x}$

C) $\frac{6}{x}$

D) $\frac{5}{2x}$

A 1/x

B 5/x

C 6/x

D 5/2x

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8 The solution of 4/x = 2 is

Question 8

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

A) $x = 8$

B) $x = 4$

C) $x = 2$

D) $x = 1$

A x = 8

B x = 4

C x = 2

D x = 1

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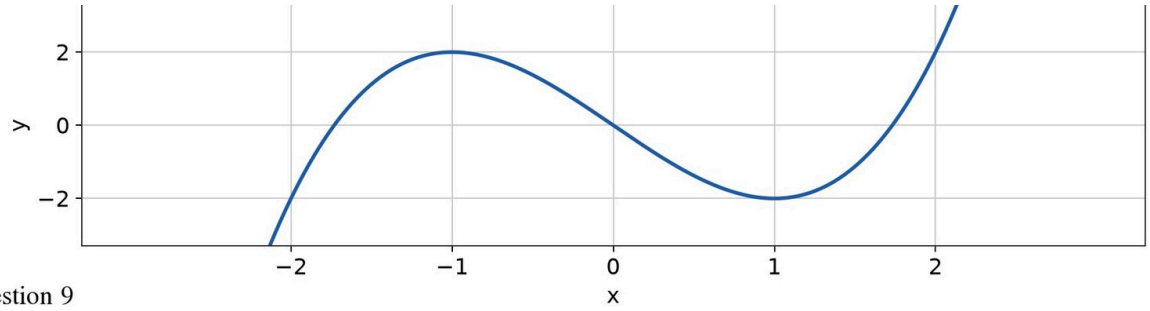
9

The graph below shows y = x³ - 3x. The sum of its zeros is



Question 9

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

ANSWER

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

Question 10

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

A) -4

B) 3

C) -3

D) 4

A -4

B 3

C -3

D 4

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ANSWER KEY

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

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