

Quiz 5

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Question 1 *The polynomial $x^3 + x$ has how many real roots and how many complex roots? (Remember, real numbers are complex numbers too!)*

- A *One real root and three complex roots.*
- B *Three real roots and three complex roots.*
- C *No real roots and three complex roots.*
- D *One complex root.*

Question 2 *Factor the cubic $x^3 + 4x^2 + x - 6$?*

- A $(x - 1)(x + 2)(x + 3)$
- B $(x - 1)(x - 2)(x + 3)$
- C $(x + 1)(x - 2)(x - 3)$
- D $(x + 1)(x + 2)(x + 3)$

Question 3 *Solve the inequality $\frac{-x}{x^2 - 4} \leq 0$.*

- A $(-2, 0] \cup (2, \infty)$
- B $(-\infty, -2) \cup [0, \infty)$
- C $[0, \infty)$
- D $[-2, 2]$

Question 4 *Which of the following could potentially be a rational root of $2x^8 + 11x^7 - x^5 + 24x^3 - 3x^2 + x + 18$?*

- A $-4/9$
- B 8
- C $3/2$
- D $1/18$