M3 Solutions Review

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1. Solve: $3x^2 + 5x - 7 = 0$

A. $\dfrac{5 \pm \sqrt{109}}{6}$

B. $\dfrac{\pm 5\sqrt{109}}{6}$

C. $\dfrac{-5 \pm \sqrt{109}}{6}$

D. no real solutions

2. Solve: $x^2 - 10x = 20$

A. $\left\{-5 + 5\sqrt{3}, -5 - 5\sqrt{3}\right\}$

B. $\left\{-5 + 3\sqrt{5}, -5 - 3\sqrt{5}\right\}$

C. $\left\{5 + 3\sqrt{5}, 5 - 3\sqrt{5}\right\}$

D. $\{0, 5\}$

3. Which equation has the complex number $4 - 3i$ as a root?

A. $x^2 + 6x - 25 = 0$

B. $x^2 - 6x + 25 = 0$

C. $x^2 + 8x - 25 = 0$

D. $x^2 - 8x + 25 = 0$

4. Which quadratic equation has the roots $2 - \sqrt{3}$ and $2 + \sqrt{3}$?

A. $x^2 - 4x + 7 = 0$ B. $x^2 + 4x + 7 = 0$

C. $x^2 - 4x + 1 = 0$ D. $x^2 + 4x - 1 = 0$

5. What is the solution of the equation $x^2 + 9 = 0$?

A. $\{3i\}$ B. $\{-3i\}$ C. 3, -3 D. $\{3i, -3i\}$

6. The third term of the expansion $(2x - 3y)^5$ is

A. $10x^3y^2$ B. $720x^3y^2$ C. $-720x^3y^2$ D. $-1080x^2y^3$

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1.
Answer: C
Objective: A.REI.04B

2.
Answer: C
Objective: A.REI.04B

3.
Answer: D

4.
Answer: C

5.
Answer: D

6.
Answer: B