Practice Test for Complex Numbers and Quadratic Equations Unit

Learning Objectives:
- A. Classify numbers in the real number system.
- B. Simplify square roots.
- C. Simplify expressions with imaginary numbers.
- D. Perform operations with complex numbers.
- E. Solve quadratic equations using completing the square.
- F. Solve quadratic equations using the quadratic formula.

Question #	Learning Objective	Know It	Feel Unsure		Right	Wrong	Simple Mistake	Need to Study
1	A							
2	B							
3	C							
4	C							
5	C							
6	C							
7	D							
8	D							
9	D							
10	E							
11	E							
12	F							

1. List the numbers systems for which each is a member: a) -4   b) 3.001   c) $\sqrt{-18}$ d)8   e)0

2. Simplify: $\sqrt{450}$

3. Find three ways to write the side length of a square with an area of 150 in^2.

4. Multiply: $5\sqrt{-6} \cdot 2\sqrt{-14}$

5. Add: $7\sqrt{-2} + 3\sqrt{-18}$

6. Find i^{34}.

7. Solve: $(2 + 3i) + (-3 + i)$.

8. Solve: $(2 + 3i) - (-3 + i)$.

9. Multiply: $(2 + 3i)(-3 + i)$.

10. Solve by completing the square: $x^2 + 6x + 17 = 0$.

11. Solve by completing the square: $2x^2 - 8x + 6 = 0$.

12. Solve with quadratic formula: $7x^2 - 2x + 9 = 0$.