Algebra 2
Chapter 3 Quiz Review

Part 1: Complex Number Operations

Simplify.

1) $(8 + 7i) - (7 + 5i)$

2) $(-2 - 5i) + (-6 - 3i)$

3) $(5 + i) + (2 + i)$

4) $(7i) - (3 - 4i) + (5i)$

5) $(-6i)(-7i)(-3 - 2i)$

6) $(5 - 8i)^2$

7) $(-6 + 8i)(-1 - 4i)$

8) $6(-8i)(-2 + 4i)$

Part 2: Solving Quadratics by Factoring

Solve each equation by factoring.

1) $x^2 + 14x + 49 = 0$

2) $x^2 + 3x = 0$

3) $x^2 + 4x = -3$

4) $m^2 - 6m = 0$

5) $k^2 - 9k = -20$

6) $x^2 - 24 = -3x - 6$

Part 3: Solving Quadratics by Graphing

Solve each quadratic by graphing

1) $y = x^2 + 6x + 8$

2) $y = -2x^2 + 8x - 6$

3) $y = x^2 + 2x$

4) $y = 2x^2 + 8x + 6$

5) $y = x^2 - 6x + 8$

6) $y = 2x^2 + 16x + 30$

Part 4: Solving Quadratics by Square Roots

Solve each equation by taking square roots.

1) $10x^2 = 490$

2) $v^2 + 3 = 19$

3) $8r^2 - 3 = -9$

4) $10b^2 - 1 = -47$

5) $(x-1)^2 = 16$

6) $(x+1)^2 - 3 = 5$

Part 5: Solving Quadratics by Completing the Square

Find the value that completes the square and then rewrite as a perfect square.

1) $a^2 + 14a + \_\_$

2) $p^2 - 34p + \_\_$

3) $r^2 - 5r + \_\_$

4) $p^2 - 9p + \_\_$

Solve each equation by completing the square.

5) $a^2 + 4a - 96 = 0$

6) $r^2 + 8r + 61 = 0$

7) $n^2 + 16n + 77 = -8$

8) $b^2 - 2b - 31 = -7$