Practice 6

Quadratic Formula
Solving Equations Quadratic in Form

Solve the equation using the quadratic formula.

1) $x^2 + 5x - 66 = 0$ 1) _____
A) {11, 6} B) {-11, 1} C) {-6, 11} D) {-11, 6}

2) $x^2 + 3x + 1 = 0$ 2) _____
A) $\left\{\frac{-3 - \sqrt{5}}{6}, \frac{-3 + \sqrt{5}}{6}\right\}$ B) $\left\{\frac{-3 - \sqrt{5}}{2}, \frac{-3 + \sqrt{5}}{2}\right\}$

3) $x^2 - 10x + 41 = 0$ 3) _____
A) {5 - 16i, 5 + 16i} B) {9, 1} C) {5 + 4i, 5 - 4i} D) {5 + 4i}

4) $16x^2 + 1 = 5x$ 4) _____
A) $\left\{\frac{-5 \pm i\sqrt{39}}{32}\right\}$ B) $\left\{\frac{-5 \pm \sqrt{39}}{32}\right\}$ C) $\left\{\frac{5 \pm \sqrt{39}}{32}\right\}$ D) $\left\{\frac{5 \pm i\sqrt{39}}{32}\right\}$

Compute the discriminant. Then determine the number and type of solutions for the given equation.

5) $x^2 - 7x - 8 = 0$ 5) _____
A) 0; one real solution
B) -17; two complex imaginary solutions
C) 81; two unequal real solutions

6) $8x^2 = 7x - 5$ 6) _____
A) 209; two unequal real solutions
B) -111; two complex imaginary solutions
C) 0; one real solution

Solve the equation by making an appropriate substitution.

7) $x^4 - 29x^2 + 100 = 0$ 7) _____
A) {4, 25} B) {-2, 2, -5, 5} C) {-2i, 2i, -5i, 5i} D) {2, 5}

8) $x^4 - 27x^2 + 50 = 0$ 8) _____
A) $\{-5, 5, -i\sqrt{2}, i\sqrt{2}\}$ B) $\{5, \sqrt{2}\}$
C) {25, 2} D) $\{-5, 5, -\sqrt{2}, \sqrt{2}\}$

9) $x - 8x^{1/2} - 128 = 0$ 9) _____
A) {512} B) {128} C) {192} D) {256}

10) $(x - 4)^2 + 4(x - 4) + 3 = 0$ 10) _____
A) {1, 3} B) {-7, -5} C) {-3, -1} D) {5, 7}

Answer Key
Testname: 6_QUADRATIC FORMULA

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