

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Band: \_\_\_\_\_

Algebra 2

**Unit 3: Solving Quadratic Equations & Imaginary Numbers PBA Practice**

**Solve the equation using square roots.**

1.  $(z - 6)^2 = 25$

2.  $2(x + 3)^2 = 18$

3.  $7(x - 4)^2 - 18 = 10$

**Solve the equation by factoring.**

4.  $0 = z^2 - 10z + 25$

5.  $n^2 - 6n = 0$

6.  $-y + 28 + y^2 = 2y + 2y^2$

**Solve the equation by completing the square.**

7.  $s^2 + 2s - 6 = 0$

8.  $x^2 + 4x - 2 = 0$

9.  $6r^2 + 6r + 12 = 0$

**Solve the equation using the Quadratic Formula.**

10.  $3x^2 + 6x + 3 = 0$

11.  $-3x = 2x^2 - 4$

12.  $-5x^2 - 6 = -4x$

Find the discriminant of the quadratic equation and describe the number and type of solutions of the equation.

13.  $x^2 + 12x + 36 = 0$

14.  $-x^2 + 2x + 12 = 0$

15.  $-2x^2 + 6 = x$

Simplify.

16.  $i^{13}$

17.  $i^{24}$

18.  $i^{35}$

19.  $i^{46}$

20.  $(9 + 5i) + (11 + 2i)$

21.  $(16 - 9i) - (2 - 9i)$

22.  $(-1 + 2i)(11 - i)$

23.  $\sqrt{-36}$

24.  $\sqrt{-24}$

25.  $-4\sqrt{-32}$

26.  $\frac{7i}{8+i}$

27.  $\frac{7+4i}{2-3i}$

28.  $\frac{-1-6i}{5+9i}$