

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

**Review Solving – Factoring, Square Roots and Completing the Square**

1.  $x^2 - x - 56 = 0$

2.  $x^2 - 10 = 38$

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

4.  $(x - 5)^2 - 3 = 42$

5.  $2x^2 - 3x = 9$

6.  $2x^2 + 2x + 9 = x^2$

**Discriminant and Simplifying the Quadratic Formula**Find the discriminant of each quadratic equation. State the number and type of solutions.

7.  $-x^2 - 2x - 10 = -9$

8.  $-9n^2 - 6n - 6 = -5$

9.  $-8k^2 + 3k - 3 = 0$

10.  $-3a^2 - 2 = -7a$

11.  $-3b^2 - 4b - 3 = -7$

12.  $-6m^2 = 8m + 7$

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**Simplify the following expressions.**

13.  $\frac{4 \pm \sqrt{81}}{3}$

14.  $\frac{-5 \pm \sqrt{-36}}{3}$

15.  $\frac{10 \pm \sqrt{50}}{15}$

16.  $\frac{-2 \pm \sqrt{-48}}{4}$

17.  $\frac{-3 \pm \sqrt{41}}{9}$

18.  $\frac{4 \pm \sqrt{-9}}{9}$

19.  $\frac{2 \pm 4\sqrt{13}}{12}$

20.  $\frac{6 \pm 2\sqrt{12}}{8}$

21.  $\frac{-3 \pm \sqrt{-30}}{9}$

22.  $\frac{5 \pm \sqrt{125}}{5}$ 

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