

**UNIT 3 REVIEW**

Name: \_\_\_\_\_ Hr. \_\_\_\_\_

**3.1**For Questions 1 and 2, solve each equation by Factoring.

1.  $x^2 - 4x - 12 = 0$

2.  $3x^2 + 24x + 45 = 0$

For Questions 3 and 4, write a quadratic equation with the given roots.

Write the equation in the form  $ax^2 + bx + c = 0$ , where  $a$ ,  $b$ , and  $c$  are integers.

3.  $-5, 8$

4.  $\frac{1}{3}, -3$

**3.2**

For Questions 5-8, find the value of the discriminant and describe the number and types of roots.

Then, solve the equation by using the Quadratic Formula.

5.  $20x^2 + 7x - 3 = 0$

6.  $x^2 - x + 1 = 0$

Discriminant: \_\_\_\_\_

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Number &amp; Type of Roots: \_\_\_\_\_

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Solutions: \_\_\_\_\_

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**7.**  $x^2 + 8x + 13 = 0$

*Discriminant:* \_\_\_\_\_*Number & Type of Roots:* \_\_\_\_\_*Solutions:* \_\_\_\_\_

**8.**  $x^2 - 8x + 16 = 0$

*Discriminant:* \_\_\_\_\_*Number & Type of Roots:* \_\_\_\_\_*Solutions:* \_\_\_\_\_

**9.** Solve the quadratic equation using the method of your choice  $3x^2 - 4x + 1 = 0$

**10.** Solve the quadratic equation using the method of your choice  $x^2 + 9x + 20 = 0$

**11.** The base of a triangle is  $x+7$ , the height of the triangle is  $x-2$ . The area of the triangle is 26 square centimeters. Find the length of the base