

First & Last Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

## 5.5 Solving Log Equations Practice

**Directions:** Solve each equation. Check for extraneous solutions.

1.  $\log_7(4n - 7) = \log_7(-3n)$

$\phi$

2.  $\log_2 75 = \log_2(2y - 1)$

$y = 38$

3.  $2 \log m = \log 36$

$m = 6$

4.  $2 \log_4 k = 4$

$k = 16$

5.  $\log_8(28k - 20) + 15 = 18$

$k = 19$

6.  $\log_2(2x) + \log_2(x - 7) = \log_2(4x)$

$x = 9$

$$7. \log_2 4 + \log_2(c - 9) = 5$$

$$c = 17$$

$$8. \log_4 108 - \log_4 9 = \log_4(7a - 9)$$

$$a = 3$$

$$9. \log_8(x^2 + 15) = 2$$

$$x = -7,7$$

$$10. 2 \log(x - 3) = \log 25$$

$$x = 8$$

$$11. \log_9(15 - 4x) = \frac{1}{2}$$

$$x = 3$$

$$12. \log(w^2 + 21) = \log(10w)$$

$$w = 3,7$$