Name _____ Date _____

7.4 Notetaking with Vocabulary (continued)

Extra Practice

In Exercises 1–12, solve the equation.

1. $x(x + 5) = 0$

2. $a(a - 12) = 0$

3. $5p(p - 2) = 0$

4. $(c - 2)(c + 1) = 0$

5. $(2b - 6)(3b + 18) = 0$

6. $(3 - 5s)(-3 + 5s) = 0$

7. $(x - 3)^2 = 0$

8. $(3d + 7)(5d - 6) = 0$

9. $(2t + 8)(2t - 8) = 0$

10. $(w + 4)^2(w + 1) = 0$

11. $g(6 - 3g)(6 + 3g) = 0$

12. $(4 - m)\left(8 + \frac{2}{3}m\right)(-2 - 3m) = 0$

Name_____ Date _____

7.4 Notetaking with Vocabulary (continued)

In Exercises 13–18, factor the polynomial.

13. $6x^2 + 3x$

14. $4y^4 - 20y^3$

15. $18u^4 - 6u$

16. $7z^7 + 2z^6$

17. $24h^3 + 8h$

18. $15f^4 - 45f$

In Exercises 19–24, solve the equation.

19. $6k^2 + k = 0$

20. $35n - 49n^2 = 0$

21. $4z^2 + 52z = 0$

22. $6x^2 = -72x$

23. $22s = 11s^2$

24. $7p^2 = 21p$

25. A boy kicks a ball in the air. The height y (in feet) above the ground of the ball is modeled by the equation $y = -16x^2 + 80x$, where x is the time (in seconds) since the ball was kicked. Find the roots of the equation when $y = 0$. Explain what the roots mean in this situation.