LESSON 10.8

NAME _____ DATE _____

Practice C

For use with pages 625–632

Find the greatest common factor and factor it out of the expression.

1. $3x^2 - 12x$

2. $4c^3 - 12c^2 + 8c$

3. $-7y^3 + 35y^2 - 7y$

4. $\frac{10}{3}x^3 + \frac{5}{3}x^2 + 35x$

5. $15d^4 - 6d^3 + 3d^2$

6. $8a^4b + 48a^2b - 88ab$

Tell whether the expression is factored completely. If the expression is not factored completely, write the complete factorization.

7. $3x(x^2 + 5)$

8. $2n(2n^2 - 9n - 5)$

9. $7x(9x^2 - 25)$

10. $6m(m^3 + 6m + 5)$

11. $8(6x^2 - 2x - 28)$

12. $-4t(5t^2 - 2t + 6)$

Factor the expression completely.

13. $21x^2 - 15x$

14. $-4c^3 + 12c^2$

15. $5m^3 + 50m^2 + 125m$

16. $6y^3 + 2y^2 - 20y$

17. $6t^3 + 9t^2 - 15t$

18. $56x - 14x^2 - 21x^3$

19. $x^3 - 2x^2 + 3x - 6$

20. $5x^3 - 20x$

21. $t^3 + 3t^2 - 4t - 12$

22. $2x^3 + 3x^2 - 2x - 3$

23. $x^3 - 4x^2 + 3x - 12$

24. $2d^3 - 10d^2 + 3d - 15$

Solve the equation. Tell which solution method you used.

25. $21x^2 - 57x - 18 = 0$

26. $16x^2 + 25 = 0$

27. $2x^2 + 6x - 3 = 0$

28. $5x^2 + 4x + 3 = 0$

29. $3x^2 - 5x - 1 = 0$

30. $10x^2 - 38x + 36 = 0$

Vertical Motion **In Exercises 31–33, use the vertical motion models, where *h* is the initial height (in feet), *v* is the initial velocity (in feet per second), and *t* is the time (in seconds) the object spends in the air.**

Vertical motion model for Earth: $h = 16t^2 - vt$

Vertical motion model for the moon: $h = \frac{16}{6}t^2 - vt$

31. ***Earth*** You toss a baseball from a height of 64 feet with an initial upward velocity of 48 feet per second. How long will it take the baseball to reach the ground?

32. ***Moon*** On the moon, you toss a baseball from a height of 64 feet with an initial upward velocity of 48 feet per second. How long will it take the baseball to reach the surface of the moon?

33. Do objects fall faster on Earth or on the moon?