Name _____ Period _____ Date _____

Practice

Factoring Using the Distributive Property

Factor each polynomial.

1. $64 - 40ab$

2. $4d^2 + 16$

3. $6r^2s - 3rs^2$

4. $15cd + 30c^2d^2$

5. $32a^2 + 24b^2$

6. $36xy^2 - 48x^2y$

7. $30x^3y + 35x^2y^2$

8. $9c^3d^2 - 6cd^3$

9. $75b^2c^3 + 60bc^3$

10. $8p^2q^2 - 24pq^3 + 16pq$

11. $5x^3y^2 + 10x^2y + 25x$

12. $9ax^3 + 18bx^2 + 24cx$

13. $x^2 + 4x + 2x + 8$

14. $2a^2 + 3a + 6a + 9$

15. $4b^2 - 12b + 2b - 6$

16. $6xy - 8x + 15y - 20$

17. $-6mn + 4m + 18n - 12$

18. $12a^2 - 15ab - 16a + 20b$

Solve each equation. Check your solutions.

19. $x(x - 32) = 0$

20. $4b(b + 4) = 0$

21. $(y - 3)(y + 2) = 0$

22. $(a + 6)(3a - 7) = 0$

23. $(2y + 5)(y - 4) = 0$

24. $(4y + 8)(3y - 4) = 0$

25. $2z^2 + 20z = 0$

26. $8p^2 - 4p = 0$

27. $9x^2 = 27x$

28. $18x^2 = 15x$

29. $14x^2 = -21x$

30. $8x^2 = -26x$

LANDSCAPING For Exercises 31 and 32, use the following information.
A landscaping company has been commissioned to design a triangular flower bed for a mall entrance. The final dimensions of the flower bed have not been determined, but the company knows that the height will be two feet less than the base. The area of the flower bed can be represented by the equation $A = \frac{1}{2}b^2 - b$.

31. Write this equation in factored form.

32. Suppose the base of the flower bed is 16 feet. What will be its area?

33. PHYSICAL SCIENCE Mr. Alim's science class launched a toy rocket from ground level with an initial upward velocity of 60 feet per second. The height h of the rocket in feet above the ground after t seconds is modeled by the equation $h = 60t - 16t^2$. How long was the rocket in the air before it returned to the ground?

Name _____ Date _____ Period _____

Assignment _____

SHOW YOUR WORK IN THE SPACES PROVIDED *(one problem per space and number the problems)*

SHOW YOUR WORK IN THE SPACES PROVIDED *(one problem per space and number the problems)*