Name _____ Date _____

LESSON 8.6

Practice B

For use with the lesson "Factor $ax^2 + bx + c$"

Factor the trinomial.

1. $-x^2 - 3x + 28$ **2.** $-p^2 + 8p - 12$ **3.** $-m^2 - 13m - 40$

4. $2y^2 + 15y + 7$ **5.** $3a^2 - 13a + 4$ **6.** $5d^2 - 18d - 8$

7. $6c^2 + 7c + 2$ **8.** $10n^2 - 26n + 12$ **9.** $12w^2 + 8w - 15$

10. $-2b^2 - 5b + 12$ **11.** $-3r^2 - 17r - 10$ **12.** $-4s^2 + 6s + 4$

Solve the equation.

13. $-x^2 + x + 20 = 0$ **14.** $-m^2 - 10m - 16 = 0$ **15.** $-p^2 + 13p - 42 = 0$

16. $2c^2 - 11c + 5 = 0$ **17.** $2y^2 + y - 10 = 0$ **18.** $16r^2 + 18r + 5 = 0$

19. $3w^2 + 19w + 6 = 0$ **20.** $12n^2 - 11n + 2 = 0$ **21.** $15a^2 - 2a - 8 = 0$

22. $-2x^2 - 9x - 4 = 0$ **23.** $-3s^2 - s + 10 = 0$ **24.** $8d^2 - 6d - 5 = 0$

Find the zeros of the polynomial function.

25. $f(x) = -x^2 + 6x + 27$ **26.** $f(x) = 6x^2 + 45x - 24$ **27.** $f(x) = -3x^2 - 14x + 24$

28. $f(x) = -2x^2 + 2x + 4$ **29.** $f(x) = 3x^2 - 17x + 20$ **30.** $f(x) = 8x^2 + 53x - 21$

31. $f(x) = 4x^2 + 29x + 30$ **32.** $f(x) = -2x^2 - 17x + 30$ **33.** $f(x) = 10x^2 + 5x - 5$

34. Summer Business Your weekly revenue R (in dollars) from your tie-dye T-shirt business can be modeled by

$R = -2t^2 + 87t + 90$

where t represents the number of weeks since the first week you started selling T-shirts. How much did you make your first week?

35. Cliff Diving A cliff diver jumps from a ledge 96 feet above the ocean with an initial upward velocity of 16 feet per second. How long will it take until the diver enters the water?

36. Wall Mirror You plan on making a wall hanging that contains two small mirrors as shown.

a. Write a polynomial that represents the area of the wall hanging.

b. The area of the wall hanging will be 480 square inches. Find the length and width of the mirrors you will use.