Name _____ Class _____ Date _____

6-4 Practice

Factoring Polynomials

Factor each expression.

1. $x^2 - 4x + 3$

2. $3x^2 - 4x + 1$

3. $v^2 + v - 2$

4. $5t^2 - t - 18$

5. $m^2 + 9m - 22$

6. $x^2 - 2x - 15$

7. $2n^2 + n - 3$

8. $2h^2 - 5h - 3$

9. $m^2 - 25$

10. $9y^2 - 1$

11. $9y^2 + 6y + 1$

12. $p^2 + 2p + 1$

13. $x^2 + 6x + 9$

14. $25x^2 - 9$

15. $4t^2 + t - 3$

16. $9c^2 - 169$

17. $4m^2 - 121$

18. $3v^2 + 10v - 8$

19. $4g^2 + 4g + 1$

20. $-w^2 + 5w - 4$

21. $9t^2 + 12t + 4$

Use factoring to find expressions for possible dimensions of each figure.

22. A rectangular parking lot has an area of $10w^2 - 9w - 40$.

23. A rectangular door has an area of $12d^2 - 31d + 14$

24. A circular window has an area of $49\pi v^2 + 84\pi v + 36\pi$.

25. A rectangular field has an area of $64m^2 - 169n^2$.

26. A rectangular prism has a volume of $6t^3 + 44t^2 + 70t$.

Factor each expression.

27. $3y^3 + 9y^2 - y - 3$

28. $3u^3 + u^2 - 6u - 2$

29. $w^3 - 3w^2 + 3w - 9$

30. $4z^3 + 2z^2 - 2z - 1$

31. $3x^3 + 8x^2 - 3x$

32. $y^5 - 9y$

33. $2p^3 - 4p^2 + 2p - 4$

34. $3y^3 - 3y^2 - 6y$

35. $2n^3 + 10n^2 + 3n + 15$