Name _____ Class _____ Date _____

8-4 Practice

Form K

Multiplying Special Cases

Simplify each expression.

1. $(y + 1)^2$

2. $(n + 11)^2$

3. $(t + 7)^2$

4. $(3m + 6)^2$

5. $(4x + 1)^2$

6. $(3n + 2)^2$

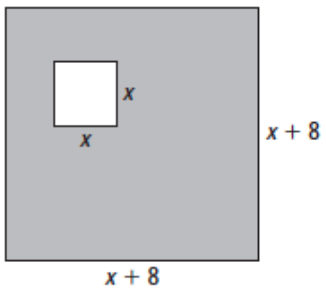
7. $(t - 3)^2$

8. $(7v - 3)^2$

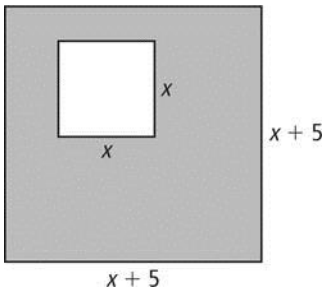
9. $(6p - 5)^2$

The figures below are squares. Find an expression for the area of each shaded region. Write your answers in standard form.

10.



11.



12. A flat, square roof needs a square patch in the corner to seal a leak. The side length of the roof is $(x + 12)$ ft and the side length of the patch is x ft. What is the area of the good part of the roof?

13. A white, square quilt has a purple square in the center. The side length of the purple square is $(x - 5)$ inches and the width of the quilt is 60 inches. What is the area of the white part of the quilt?

Name _____ Class _____ Date _____

8-4 Practice (continued) *Form K*

Multiplying Special Cases

Mental Math Simplify each product.

14. 52^2 **15.** 18^2 **16.** 119^2

17. 495^2 **18.** 72^2 **19.** 151^2

Simplify each product.

20. $(x + 1)(x - 1)$ **21.** $(m + 5)(m - 5)$ **22.** $(a - 4)(a + 4)$

23. $(s - 13)(s + 13)$ **24.** $(2z - 3)(2z + 3)$ **25.** $(4d + 6)(4d - 6)$

Mental Math Simplify each product.

26. $99 \cdot 101$ **27.** $48 \cdot 52$ **28.** $178 \cdot 182$

Simplify each product.

29. $(s + 3t)^2$ **30.** $(2x + y)^2$ **31.** $(4a - b)^2$

32. $(m^2 + 3n)(m^2 - 3n)$ **33.** $(9f^2 + 4g)(9f^2 - 4g)$ **34.** $(6m^4 - n^3)(6m^4 + n^3)$

35. The formula $V = \pi r^2 h$ gives the volume of a cylinder with radius r and height h. Find the volume of a cylinder with radius $(x + 4)$ cm and height 5 cm. Write your answer in standard form.