Name _____ Date _____

LESSON 9.3

Practice C

For use with pages 569–574

Find the product.

1. $(8x - 5)^2$ **2.** $(4p + 4)^2$ **3.** $(10m - 11)^2$

4. $(11s - 10)^2$ **5.** $(20b - 15)^2$ **6.** $(m + 4n)^2$

7. $(r - 8s)^2$ **8.** $(10a + 3b)^2$ **9.** $(2x - 4y)^2$

10. $(8p - 3)(8p + 3)$ **11.** $(11t + 4)(11t - 4)$ **12.** $(7n - 5)(7n + 5)$

13. $(9z + 12)(9z - 12)$ **14.** $(15 - w)(15 + w)$ **15.** $(6 - 5p)(6 + 5p)$

16. $(20 - 3m)(20 + 3m)$ **17.** $(10a - 5b)(10a + 5b)$ **18.** $(4x - 3y)(4x + 3y)$

***Describe* how you can use mental math to find the product.**

19. $36 \cdot 44$ **20.** 23^2 **21.** 49^2

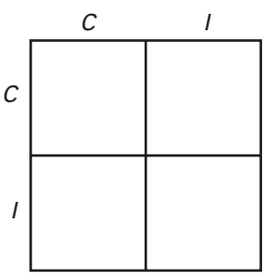
Perform the indicated operation using the functions $f(x) = 9x - 0.5$ and $g(x) = 9x + 0.5$.

22. $f(x) \cdot g(x)$ **23.** $(f(x) + g(x))^2$ **24.** $(f(x) - g(x))^2$

25. Write two binomials that have the product $x^2 - 144$. *Explain* how you found your answer.

26. Write a pattern for the cube of a binomial $(a - b)^3$. *Justify.*

27. **Soccer Statistics** You are on the soccer team and you want to figure out some statistics about attempted goals. The area model shows the possible outcomes of two attempted goals.



a. What percent of the two possible outcomes of two attempted goals results in you making at least one goal? *Explain* how you found your answer using the table.

b. Show how you could use a polynomial to model the possible results of two attempted goals.

28. **Greenhouse** You are drawing up a plan to build a greenhouse in the shape of a rectangular prism. The height of the greenhouse is constant at 8 feet tall. You have 144 feet of material to form the base of the greenhouse into a square with a side length of 12 feet. You want to change the dimensions of the enclosed region. For every 1 foot you increase the width, you must decrease the length by 1 foot. Write a polynomial that gives the volume of the prism after you increase the width by x feet and decrease the length by x feet. *Explain* why any change in dimensions results in a volume less than that of the original prism.