

Using Square Number Differences

NCTM Standards 1, 2, 6, 8

Complete the tables.

1	a	2	4				
	a^2			100			
	$a + 1$				12		
	$a - 1$					24	
	$(a + 1) \times (a - 1)$						899

2

	b	9		15		60	
	b^2		64		1,600		
	$(b + 1) \times (b - 1)$						143
	$b^2 - 1$						2,499

3 Write an expression equivalent to $(n + 1) \times (n - 1)$.



4 Alex knows that he needs 625 one-foot tiles to cover a floor that is 25 feet by 25 feet. How many one-foot tiles does he need to cover a floor that is 24 feet by 26 feet? Explain how you can use a pattern to solve.

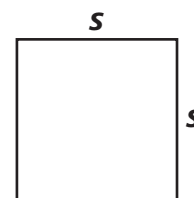
Complete the tables.

5	c	5				
	$c + 3$		10			28
	$c - 3$			11		
	$(c + 3) \times (c - 3)$				2,491	
	$c^2 - 9$			91		

6	d					
	$d - 2$		11			
	$d + 2$			9		
	$d^2 - 4$	12			221	8,096
	$(d + 2) \times (d - 2)$				3,596	



7 Abby drew this sketch of the square floor she wants to tile. The s stands for the length of each side in feet. She said she can use the expression s^2 to find the number of one-foot tiles she needs. Blake says she should use the expression $s \times s$ to find the number of tiles she needs. Who is correct? Explain.



8 Challenge Fill in the beginning of each row and complete the table.

	9	12	20	
	13	16		15
		8	16	7
	81		400	
		128		105