



Name _____ Date _____

Functions (Pages 428–432)

A relationship where one thing depends upon another is called a **function**. In a function, one or more operations are performed on one number to get another number. So, the second number depends on, or is a function of, the first number. The value of $f(n)$ (which you say as “function of n ” or “ f of n ”) depends on the value of n .

Finding Values for Functions	You can organize the input (original number), rule (the operations performed on the input), and the output (the value of the function) into a function table like this one.		
	Input or domain	Rule	Output or range
	n	$2n + 1$	$f(n)$
The domain contains all the values of n , and the range contains all the values of $f(n)$.			

EXAMPLE

Complete the function table at the right.

Replace n in the rule with each input value.

The rule, $2n + 1$, is $2(0) + 1$ or 1 for an input of 0 .

Put the simplified value for $f(n)$ in the output column.

Repeat these same steps for the input values of -1 , 1 , and 2 .

Input n	Rule $2n + 1$	Output $f(n)$
-1	$2(-1) + 1$	-1
0	$2(0) + 1$	1
1	$2(1) + 1$	3
2	$2(2) + 1$	5

PRACTICE

1. Complete this function table.

n	$-3n$	$f(n)$
-2		
0		
0.5		
2		
4		

Find each function value.

2. $f(6)$ if $f(n) = n - 3$

3. $f(0.5)$ if $f(n) = 0.5n + 1$

4. $f(3.2)$ if $f(n) = n^2 - 2$

5. $f(12)$ if $f(n) = -n - 3$

6. $f(-4)$ if $f(n) = n + 5$

7. $f(0)$ if $f(n) = n + 5$



8. **Standardized Test Practice** If $f(n) = 2n^2 + 20$, find $f(-3)$.

A 2

B 38

C 56

D 236

Answers: 1. 6, 0, -1.5, -6, -12, 2. 3, 3. 1.25, 4. 8.24, 5. -15, 6. 1, 7. 5, 8. B