

EXAMPLE 4 Write a function rule

Write a rule for the function.

Input	0	1	4	6	10
Output	2	3	6	8	12

Solution

Let x be the input, or independent variable, and let y be the output, or dependent variable. Notice that each output is 2 more than the corresponding input. So, a rule for the function is $y = x + 2$.

EXAMPLE 5 Write a function rule for a real-world situation

CONCERT TICKETS You are buying concert tickets that cost \$15 each. You can buy up to 6 tickets. Write the amount (in dollars) you spend as a function of the number of tickets you buy. Identify the independent and dependent variables. Then identify the domain and the range of the function.

**Solution**

Write a verbal model. Then write a function rule. Let n represent the number of tickets purchased and A represent the amount spent (in dollars).

CHOOSE A VARIABLE

To write a function rule for a real-world situation, choose letters for the variables that remind you of the quantities represented.

Amount spent (dollars)	=	Cost per ticket (dollars/ticket)	·	Tickets purchased (tickets)
↓		↓		↓
A	=	15	·	n

So, the function rule is $A = 15n$. The amount spent depends on the number of tickets bought, so n is the independent variable and A is the dependent variable.

Because you can buy up to 6 tickets, the domain of the function is 0, 1, 2, 3, 4, 5, and 6. Make a table to identify the range.

Number of tickets, n	0	1	2	3	4	5	6
Amount (dollars), A	0	15	30	45	60	75	90

The range of the function is 0, 15, 30, 45, 60, 75, and 90.

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GUIDED PRACTICE for Examples 3, 4, and 5

- Make a table for the function $y = x - 5$ with domain 10, 12, 15, 18, and 29. Then identify the range of the function.
- Write a rule for the function. Identify the domain and the range.

Time (hours)	1	2	3	4
Pay (dollars)	8	16	24	32