

# What's My Function?

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Fixed cost/variable cost functions are common in our society. You might want to talk about these and have students suggest others. Examples are base salary plus commissions, membership fee plus cost per use, and taxi start-up fare plus mileage.

"After students wrote the function to find the cost when they knew the number of CDs, we talked about "undoing" the rule they had written to figure out the number of CDs when the total cost is known. For example, to "undo" the function  $y = 3x + 2$ , first subtract the fixed number, the 2, from  $y$ . Then divide that difference by 3 to get  $x = (y - 2) \div 3$ ."

## Goals

- Identify a fixed cost/variable cost functional relationship presented in prose, and use that relationship to complete tables of data.
- Use symbols to write functions that describe how data in a table are related.

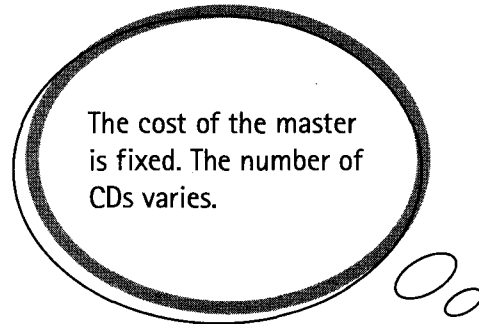
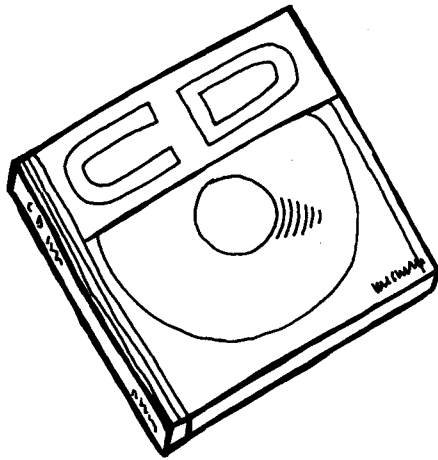
## Questions to Ask

- 1 What is the cost for the master and no CDs? (\$3.00)
- 2 What is the cost of the master and 1 CD? (\$3.50)
- 3 If the total cost is \$4, how much was spent on CDs? (\$1) How do you know? (Subtract the \$3 for making the master from the total cost;  $\$4 - \$3 = \$1$ .)
- 4 How many CDs can you get for \$1? (2) How did you figure it out? (by dividing  $\$1.00 \div \$0.50$ )
- 5 How would you write the function rule that relates the total cost for the number of CDs purchased? ( $b = 0.5a + 3$ )
- 6 If you know the total cost, how can you figure out the number of CDs? (Subtract \$3.00 from the total cost. Then divide that difference by \$0.50.)

## Solutions

1. Rows of data are: 1, \$3.50; 2, \$4.00; 3, \$4.50; 4, \$5.00; 5, \$5.50; 6, \$6.00; 8, \$7.00; 10, \$8.00
2.  $b = 0.5a + 3$
3.  $a = (b - 3) \div 0.5$

# What's My Function? 1



**Cyndi's CDs** charges \$3.00 to make a master from a tape and \$0.50 for each CD made from the master.

1. Complete the table to show the cost for the master and different numbers of CDs.

Number of CDs ( $a$ )	Total Cost ( $b$ )
1	
2	
3	
4	
5	
6	
8	
10	

2. Write the function rule that shows how the total cost is related to the number of CDs.  $b =$  \_\_\_\_\_
3. Write the function rule that shows how the number of CDs is related to the total cost.  $a =$  \_\_\_\_\_