4-5 Reteaching

Writing a Function Rule

When writing function rules for verbal descriptions, you should look for key words.

Words that Suggest Addition	Words that Suggest Subtraction	Words that Suggest Multiplication	Words that Suggest Division
plus	minus	times	divided by
sum	difference	product	quotient
more than	less than	of	rate
increased by	decreased by	each	ratio
total	fewer than	factors	half
in all	subtracted by	twice	a third of

Problem

Twice a number n increased by 4 equals m. What is a function rule that represents the sentence?

twice a number n	increased by 4	equals	m
$2n$	$+ 4$	$=$	m

The function rule is $2n + 4 = m$.

Exercises

Write a function rule that represents each sentence.

1. t is 4 more than the product of 7 and s.

$t = 7s + 4$

2. The ratio of a to 5 equals b.

$\frac{a}{5} = b$

3. 8 fewer than p times 3 equals x.

$3p - 8 = x$

4. y is half of x plus 10.

$y = \frac{1}{2}x + 10$

5. k equals the sum of h and 23.

$k = h + 23$

6. 15 minus twice a equals b.

$15 - 2a = b$

7. m equals 5 times n increased by 6.

$m = 5n + 6$

8. 17 decreased by three times d equals c.

$17 - 3d = c$

9. 5 more than the product of 6 and n is 17.

$6n + 5 = 17$

10. d is 8 less than the quotient of b and 4.

$d = \frac{b}{4} - 8$

4-5

Reteaching (continued)

Writing a Function Rule

You can write functions to represent situations and then evaluate the function to determine a particular value.

Problem

A sales associate earns $500 per week plus 4% of his sales. Write a function rule for the amount he makes in a week if he sells **s** dollars of merchandise. How much will he make if he sells $4000 worth of merchandise?

First write the function rule.

earnings	equals	500	plus	4% of sales
e	$=$	500	$+$	$0.04s$

Use this function rule to calculate how much he will make.

$e = 500 + 0.04s$

$ = 500 + 0.04(4000)$

$ = 700$

He will make $700.

Exercises

11. Twelve cans of peaches are placed into each box. Write a function rule for the number of boxes needed for c cans. How many boxes are needed for 1440 cans?

$b = \frac{c}{12}$; **120 boxes**

12. Tara plans to rent a car for the weekend. The cost to rent the car is $45 plus $0.15 for each mile she drives. Write a function rule for the total cost of the rental. How much is the rental if she travels 500 miles?

$c = 0.15m + 45$; **120**

13. A plumber charges $60 for a service call plus $55 for each hour she works. Write a function rule for the total bill for a plumbing job. What is the total bill for a job that takes the plumber 3 hours of work?

$B = 55h + 60$; **$225**

14. Tickets to a concert cost $45 per ticket plus a $10 processing fee for each order. Write a function rule for the total cost of ordering tickets. What is the total cost to order 6 tickets?

$c = 45t + 10$; **$280**