

Identify the independent and dependent quantities in each problem situation. Then, write a function in function notation to represent the problem situation.

- Nathan is riding his scooter to school and covers a distance of 6 miles every hour.

Independent quantity (IQ) = time (hours)

Dependent quantity (DQ) = distance (miles)

$$D(t) = 6t$$

- Shanise plays on the varsity soccer team. She averages 4 goals per game.

- The basketball booster club sells t-shirts at a varsity basketball game. Each t-shirt costs \$12.

Use each scenario to complete the table of values and calculate the unit rate of change using two rows in the table.

- Jada is walking to school at a rate of 2 miles per hour.

	Independent Quantity	Dependent Quantity
Quantity		
Units		
Expression		
	0.25	
	0.5	
	1	
	1.25	
	1.5	

- The volleyball boosters sell bags of popcorn during the varsity matches to raise money for new uniforms. Each bag of popcorn costs \$3.

	Independent Quantity	Dependent Quantity
Quantity		
Units		
Expression		
	5	
	10	
	15	
	20	
	25	

Identify the input value, the output value, and the rate of change for each function.

6. Belinda is making greeting cards. She makes 4 cards her hour. The function $C(t) = 4t$ represents the total number of cards Belinda makes as a function of time.

Input value (IV) = t

Output value (OV) = $4t$

Rate of change (ROC) = 4.

7. Owen is riding his bike to his friend's house at a rate of 6 miles per hour. The function $D(t) = 6t$ represents the distance Owen rides as a function of time.

8. Rochelle is shopping for earrings. Each pair of earrings costs \$15. The function $C(e) = 15e$ represents the total cost of the earrings as a function of the number of pairs of earrings Rochelle buys.

Solve each function for the given input value. Then, write your answer in a complete sentence. The function $A(t) = 7t$ represents the total amount of money in dollars Bobby earns mowing lawns as a function of time in hours.

9. $A(3) = \underline{21}$ _____

$A(3) = 7(3)$

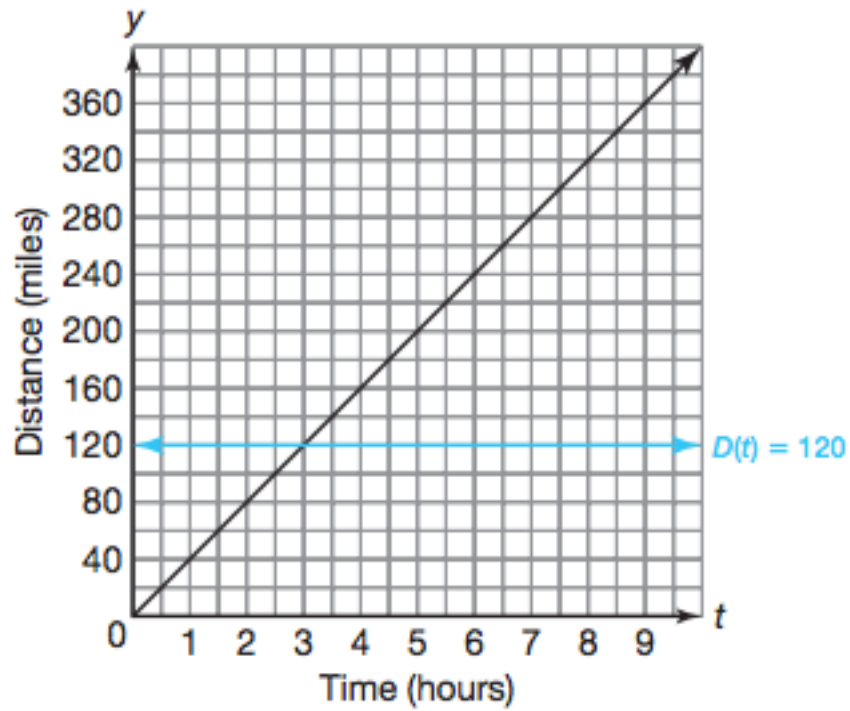
Bobby earns \$21 when he mows lawns for 3 hours.

10. $A(2) =$ _____

11. $A(5) =$ _____

12. $A(4.5) =$ _____

Use the graph to determine the input value for each given output value. The function $D(t) = 40t$ represents the total distance traveled in miles as a function of time in hours.



13. $D(t) = 120$

$t = 3$

14. $D(t) = 320$

15. $D(t) = 240$

16. $D(t) = 160$

17. $D(t) = 80$

18. $D(t) = 400$