

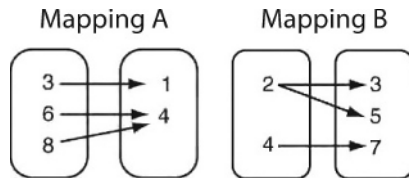
MODULE
6

Functions

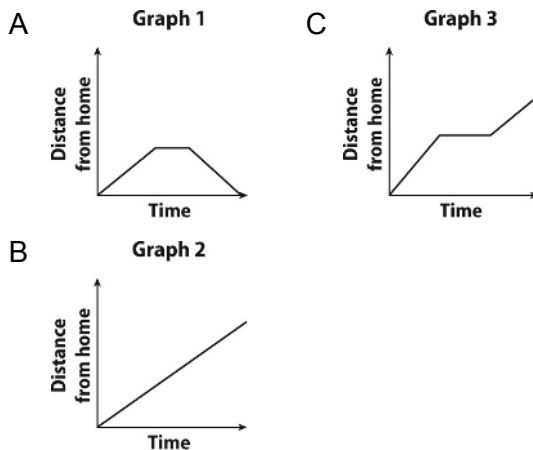
Module Quiz: D

- An elk was clocked running 45 miles per hour. Which equation shows the relationship between the distance, y , and time, x , that the elk ran?
 A $y = 45x$ C $y = 5x + 40$
 B $y = x + 45$
- The graph of a linear relationship passes through $(0, 3)$, and $(3, 9)$. Which is an equation for this linear relationship?
 A $y = 3x$ C $y = 2x + 3$
 B $y = x + 6$

Use the diagrams below for 3.



- Which mapping diagram represents a relationship that is a function?
 A Mapping A
 B Mapping B
 C both Mapping A and Mapping B
- Which graph shows a person walking, stopping for a while, then continuing at a slower speed?



- Which of the following is **not** a function?
 A $\{(2, 1), (4, 3), (6, 5), (8, 7)\}$
 B $\{(2, 1), (4, 1), (6, 5), (5, 4)\}$
 C $\{(2, 1), (4, 3), (6, 5), (2, 7)\}$
- A cell phone company charges \$50 for the phone plus a monthly service charge of \$30. The equation $y = 30x + 50$ gives the cost y after x months. Which is true of the relationship between x and y ?
 A It is linear and proportional.
 B It is linear and nonproportional.
 C It is not linear.
- Which input/output table shows solutions to the equation $y = x^2 + 2$?

A

Input, x	-2	-1	0	1	2
Output, y	6	3	2	3	6

B

Input, x	-2	-1	0	1	2
Output, y	-2	-1	2	4	6

C

Input, x	-2	-1	0	1	2
Output, y	-2	0	2	3	6

- The cost in dollars, y , to participate x days in a bike tour is a linear function. Lin's bike tour is described by the equation $y = 5x + 50$. The cost of Max's bike tour is \$120 for a 14-day bike tour. If both Lin and Max take 14-day tours, whose bike tour costs less?
 A Lin's
 B Max's
 C The cost is the same for both.

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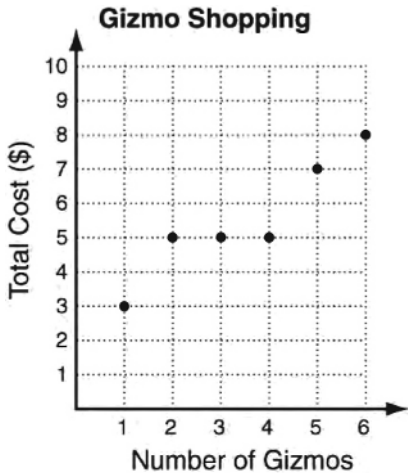
Functions

9. Sketch a graph that shows Maria walking for a while at an increasing speed, stopping to talk to a friend, then continuing to walk at that speed.

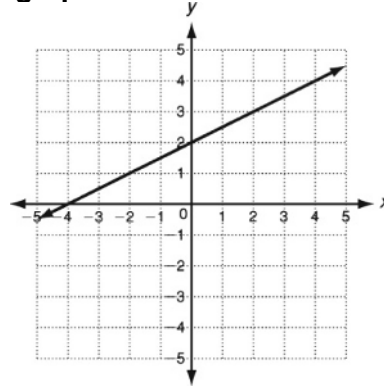
10. Determine whether the relationship shown in the table below is a function. Write *function* or *not a function*.

Input	9	8	9	10
Output	27	32	36	40

11. The graph shows the total cost if a customer buys 1, 2, 3, 4, 5, or 6 gizmos. Determine whether the relationship is a function. Write *function* or *not a function*.



Use the graph for 12–13.



12. What is the slope of this line?

13. Is the relationship between x and y proportional or nonproportional?

14. Write the equation $y - 2 = 6x + 3$ in $y = mx + b$ form.

15. Two lawn-mowing services are compared. The monthly cost, y dollars, is compared to the number of times the yard is mowed, x . The monthly cost of Service A is represented by $y = 30x + 20$. The graph of Service B's costs goes through $(0, 0)$ and $(5, 150)$. How do these two services differ?
