

Linear Functions

Chapter Test Form B

Select the best answer.

1. Which set of ordered pairs satisfies a linear function?

A

x	1	1	1	1
y	2	4	6	8

B

x	1	2	3	4
y	2	4	8	16

C

x	-1	1	3	5
y	8	6	4	2

D

x	-3	-2	-1	0
y	2	-2	4	-4

2. A vacation home in Orlando, Florida, rents for \$105 per day. The function $f(x) = 105x$ gives the cost of renting the home for x days. What is the domain of this function?

- F $x \geq 0$
- G $\{0, 1, 2, 3, \dots\}$
- H $\{0, 105, 210, 315, \dots\}$
- J all real numbers

3. A parking meter gives 30 minutes for each quarter and 6 minutes for each nickel. The equation $30x + 6y = 60$ describes the number of quarters x and nickels y that you need to park for 60 minutes. What does the x -intercept represent?

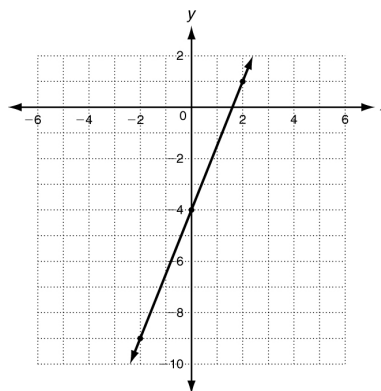
- A You need 2 quarters and no nickels to park for 60 minutes.
- B You need 10 nickels and no quarters to park for 60 minutes.
- C You need 6 nickels and no quarters to park for 60 minutes.
- D You need 30 quarters and no nickels to park for 60 minutes.

4. This table shows the U.S. federal minimum hourly wage in different years. During which time interval did the wage increase at the greatest rate?

Year	1979	1980	1981	1990	1991
Wage (\$)	2.90	3.10	3.35	3.80	4.25

- F 1979 to 1980 H 1981 to 1990
- G 1980 to 1981 J 1990 to 1991

5. Find the slope of this line.



- A $-\frac{5}{2}$ C $\frac{2}{5}$
- B $-\frac{2}{5}$ D $\frac{5}{2}$

6. Find the slope of the line that contains the points $(1, -1)$ and $(-2, 8)$.

- F -5 H $-\frac{7}{3}$
- G -3 J $-\frac{1}{3}$

7. Which equation is NOT a direct variation?

- A $y = 50x$ C $-2y = x$
- B $5x + 2y = 10$ D $-3x + 2y = 0$

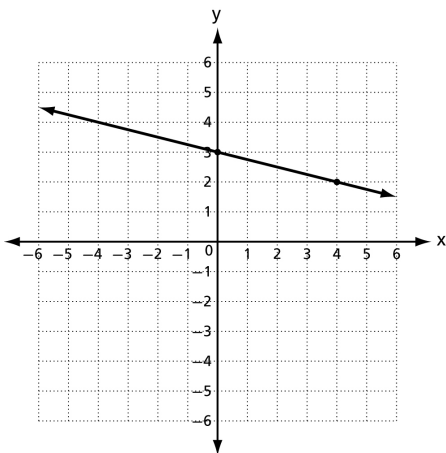
8. Which equation describes the line with a slope of 5 and y -intercept of -3 ?

- F $y = -3x + 5$ H $y = 5x - 3$
- G $y = 3x - 5$ J $y = 5x + 3$

Linear Functions

Chapter Test Form B continued

9. What is the slope and y-intercept of the graph?



- A slope = $-\frac{1}{4}$, y-intercept = 2
 B slope = $-\frac{1}{4}$, y-intercept = 3
 C slope = 4, y-intercept = 4
 D slope = 4, y-intercept = 4
10. Which equation describes the line with a slope of 2 that contains the point (4, -3)?
 F $y - 4 = 2(x + 3)$ H $y + 3 = 2(x - 4)$
 G $2(y - 3) = x + 4$ J $2(y + 4) = x + 3$
11. The table shows the age of several people and how many hours a day they spend playing computer and/or video games.

Age (yrs)	15	63	33	22	15
Playing (hrs/day)	5	0	2	8	0

Which equation could represent a line of best fit for this data?

- A $y \approx 53x - 7.9$
 B $y \approx -7.9x + 53$
 C $y \approx 5.3x - 0.079$
 D $y \approx -0.079x + 5.3$

12. Here are four linear equations.

I $4x + 3y = 15$ II $3x - 4y = -8$

III $y + 1 = \frac{4}{3}(x - 6)$ IV $y = \frac{3}{4}x - 5$

Which pair of lines are parallel?

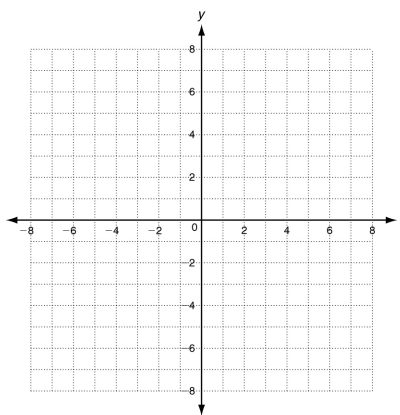
- F I and II H II and IV
 G I and III J III and IV

13. Which equation describes a line that passes through (-6, 8) and is perpendicular to the line described by $y = 2x - 4$?

A $y = -2x - 4$ C $y = \frac{1}{2}x + 11$

B $y = -\frac{1}{2}x + 5$ D $y = 2x + 20$

14. Graph $f(x) = -3x + 4$ and $g(x) = 3x + 4$. Which describes the transformation(s) from the graph of $f(x)$ to the graph of $g(x)$?



- F a reflection across the y-axis
 G a reflection across the y-axis and a translation 4 units up
 H a rotation (less steep) about (0, 4)
 J a translation up 6 units