NAME Key DATE _____ PERIOD _____

Chapter 3 Test Practice

SCORE _____

1. Tickets for a spaghetti dinner cost \$4 for children and \$6 for adults. The equation $4x + 6y = 36$ represents the number of children x and adults y who can eat at the dinner for \$36. If no children are eating at the dinner, how many adults can eat for \$36?

1. 6 adults

2. If $(a, 9)$ is a solution to the equation $-4a = b - 21$, what is a?

2. $a = 3$

3. What is the slope of the line through $(-1, 3)$ and $(6, 3)$?

3. $m = 0$

4. Which equation is a linear equation?

A $4m^2 = 6$

B $3a + 5b = 3$

C $\frac{2}{3}xy - \frac{3}{4}y = 0$

D $x^2 + y^2 = 0$

4. B

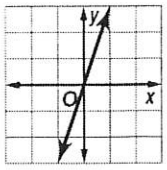
5. What is the slope of the line through $(3, 5)$ and $(3, 6)$?

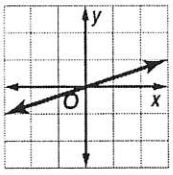
5. undefined

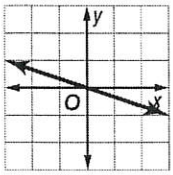
6. In 1972, federal vehicle emission standards allowed 3.4 hydrocarbons released per mile driven. By 2007, the standards allowed only 0.8 hydrocarbons per mile driven. What was the rate of change from 1972 to 2007?

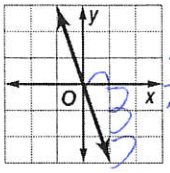
6. $-13/175$

7. Which graph has a slope of –3?

F 

G 

H 

J 

7. J

8. Suppose y varies directly as x, and $y = 26$ when $x = 8$. Find x when $y = 65$.

8. $x = 20$

9. If a shark can swim 27 miles in 9 hours, how many miles will it swim in 12 hours?

9. 36 miles

For Questions 10 and 11, use the table below that shows the amount of gasoline a car consumes for different distances driven.

Distance (mi)	1	2	3	4	5
Gasoline (gal)	0.04	0.08	0.12	0.16	0.20

10. Write an equation in function notation for the relationship between distance and gasoline used.

10. $f(x) = .04x$

11. How many gallons will the car consume after driving for 15 miles?

11. .6 gallons

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Chapter 3 Test Practice *(continued)*

12. Find the function that represents the relationship.

F $y = 8x$ **H** $y = 14x + 8$
G $y = 8x + 14$ **J** $y = 14x + 14$

x	0	1	2	3	4
y	14	22	30	38	46

12. G

For Questions 13 and 14, use the relation shown in the table.

x	y
1	5
2	8
3	11
4	14
5	17

13. Which equation describes this relationship?

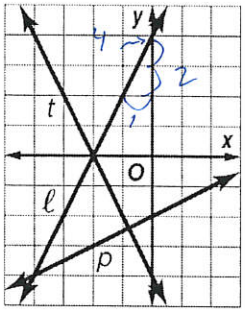
A $f(x) = 2x$ **C** $f(x) = 2x + 1$
B $f(x) = x - 1$ **D** $f(x) = 3x + 2$

13. D

14. What is the value of y when $x = 17$?

14. $f(17) = 53$

For Questions 15 and 16, use the graph shown.



15. Which line is a vertical line?

A ℓ **C** t
B p **D** none

15. D

16. Which line is the graph of $y = 2x + 4$?

F ℓ **H** the x-axis
G p **J** t

16. F

17. What is the standard form of $y - 2 = \frac{1}{3}(x + 5)$?

17. $x - 3y = -11$

18. Determine whether the sequence $-10, -7, -4, -1, \ldots$ is an arithmetic sequence. Write *yes* or *no*. If so, state the common difference.

18. yes, 3

19. F

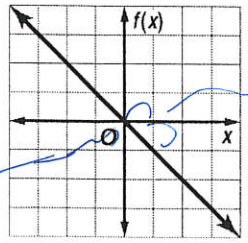
19. Which is an equation for the nth term of the sequence **12, 15, 18, 21, ...?**

F $a_n = 3n + 9$ **H** $a_n = 12n + 3$
G $a_n = 9n + 3$ **J** $a_n = n + 3$

20. J

20. Write an equation in function notation for the relation at the right.

F $f(x) = 2x$ **H** $f(x) = 1 - x$
G $f(x) = x + 1$ **J** $f(x) = -x$



B: 10

Bonus who knows...?