Test 4 (Unit 6) version 2

Question 1 .

The cost of a car, in dollars, *t* years after its purchase is \$20,000 - \$3,000*t*.

Which statement is correct?

- **A.** The cost of the car depreciates every year by \$3,000.
- **B.** The cost of the car increases every year by \$3,000.
- **C.** The cost of the car depreciates every year by \$20,000.
- **D.** The cost of the car increases every year by \$20,000.

Question 2 .

Mr. Smith works for a construction company and receives a paycheck each week. His paycheck (*p*), in dollars, includes his base salary plus an additional amount for each hour (*h*) of overtime worked that week. The following equation represents this situation.

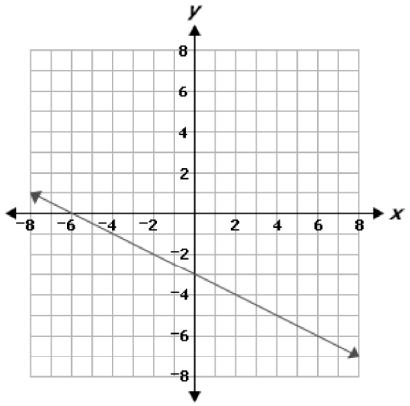
$$p = 25.50h + 680$$

What does the number 25.50 represent in the equation?

- **A.** the amount of the paycheck
- **B.** the number of overtime hours worked that week
- **C.** the base salary
- **D.** the amount paid for each hour of overtime worked that week

Question 3 .

A function of *x* is graphed on the coordinate plane below.



Which equation describes the function?

- **A.** $y = \frac{-1}{2}x - 6$
- **B.** $y = -3x - \frac{1}{2}$
- **C.** $y = -2x - 3$
- **D.** $y = \frac{-1}{2}x - 3$

Question 4 .

The equation of a line in the point-slope form is show below.

$$y - 3 = 2(x - 9)$$

What is the slope of this line?

- **A.** 9
- **B.** 2
- **C.** $\frac{1}{2}$
- **D.** $\frac{1}{3}$

Question 5 .

Lisa is making baby blankets to donate to a local hospital. The table below shows the relationship between the number of blankets made and the number of hours spent making the blankets.

Baby Blankets

Number of Blankets	Hours Spent Making Blankets
1	$1\frac{3}{4}$
2	$3\frac{1}{2}$
3	$5\frac{1}{4}$

Based on the relationship shown in the table, how many more hours does Lisa spend making 12 blankets than she does making 3 blankets?

- **A.** $10\frac{3}{4}$
- **B.** $15\frac{3}{4}$
- **C.** 21
- **D.** $26\frac{1}{4}$

Question 6 .

Jason jogs around a circular track at an average rate of 3 laps in 5 minutes. At this rate, how many laps can Jason complete in 35 minutes?

- **A.** 7
- **B.** 15
- **C.** 21
- **D.** 58

Question 7 .

Identify the slope of the line below.

$4x + 4y = 8$

○ **A.** 1

○ **B.** 2

○ **C.** -1

○ **D.** -2

Question 8 .

The number of entertainment websites in 1994 was 81. By 2004, there were 1,172 entertainment websites.

Approximately what was the rate of change for the number of websites for this period of time?

○ **A.** 9.17 websites per year

○ **B.** 627 websites per year

○ **C.** 1,091 websites per year

○ **D.** 109 websites per year

Question 9 .

The total cost of a plane ride, *C*, is given below as a function of the time flown, *m*, in minutes.

$C = \$33.00 + \$1.20m$

If a customer spends $141.00 on a plane ride, how many minutes does the ride last?

○ **A.** 145

○ **B.** 118

○ **C.** 90

○ **D.** 150

Question 10 .

What is the equation of the line that passes through the points (3,9) and (6,2)?

○ **A.** $y + 9 = -\frac{3}{7}(x + 3)$

○ **B.** $y + 2 = -\frac{7}{3}(x + 6)$

○ **C.** $y - 9 = -\frac{7}{3}(x - 3)$

○ **D.** $y - 2 = -\frac{3}{7}(x - 6)$

Question 11 .

The table below shows values of y as a function of x.

x	y
2	8
6	15
10	22
22	43
30	57

Which linear equation describes the relationship between x and y?

- **A.** $y = 0.57x + 6.86$
- **B.** $y = 0.57x + 8$
- **C.** $y = 1.75x + 4.5$
- **D.** $y = 1.75x + 8$

Question 12 .

Michael got a job peeling potatoes. In the first four hours of his shift, he peeled 96 potatoes. How many potatoes can he peel in eight hours?

- **A.** 168
- **B.** 12
- **C.** 768
- **D.** 192

Question 13 .

Sebastian bought x gallons of gas at a price of $2.91 per gallon at his local gas station. When he paid for the gas, Sebastian also paid $11.40 for granola bars and a box of tissues.

If Sebastian filled 10 gallons of gas, how much did he spend in all at the gas station?

- **A.** $3.92
- **B.** $24.71
- **C.** $40.50
- **D.** $116.91

Question 14 .

A linear function has a slope of $\frac{7}{3}$ and passes through the point (0,9). What is the equation of the line?

- **A.** $y = \frac{3}{7}x - 9$
- **B.** $y = \frac{7}{3}x + 9$
- **C.** $y = \frac{7}{3}x + 21$
- **D.** $y = \frac{7}{3}x - 9$

Question 15 .

A frozen yogurt stand charges per ounce of frozen yogurt purchased. There is an extra charge for a waffle bowl. The total cost (*c*), in dollars, for *f* ounces of frozen yogurt in a waffle bowl, is described by the function $c = 0.45f + 1$.

Which statement is true?

- **A.** The cost of 0.45 ounce of frozen yogurt in a waffle bowl is $1.
- **B.** The cost of 0.45 ounce of frozen yogurt in a waffle bowl is $1.45.
- **C.** Each ounce of frozen yogurt costs $0.45 and a waffle bowl is $1 extra.
- **D.** Each ounce of frozen yogurt costs $1 and a waffle bowl is $0.45 extra.

Question 16 .

Which of the following is an equation of the line, in standard form, that passes through the points (⁻6, 1) and (3, ⁻2)?

- **A.** $x - 3y = ⁻9$
- **B.** $x + 3y = 3$
- **C.** $x - 3y = 9$
- **D.** $x + 3y = ⁻3$

Question 17 .

Mr. Finch buys a pack of ground coffee. He uses the same amount of ground coffee for each cup of coffee he brews. The equation below describes the relationship between the number of cups brewed (*x*) and the ounces of coffee (*y*) remaining in the pack.

$$x + 3y = 18$$

How much ground coffee, in ounces, was in the full pack?

- **A.** 3
- **B.** 6
- **C.** 15
- **D.** 18

Question 18 .

Mr. Baker leaves the check-in counter at the airport and walks to a moving sidewalk, which takes him to his gate. Mr. Baker's distance (d), in meters, from the check-in counter while he has been standing on the moving sidewalk for s seconds, is described by the function $d = 2s + 20$.

Which statement is true?

- **A.** Mr. Baker is 2 meters from the check-in counter after 22 seconds.
- **B.** Mr. Baker is 20 meters from the check-in counter 24 seconds.
- **C.** Mr. Baker moves 2 meters per second while standing on the moving sidewalk, and he walked 20 meters to get to the moving sidewalk.
- **D.** Mr. Baker moves 20 meters per second while standing on the moving sidewalk, and he walked 2 meters to get to the moving sidewalk.

Question 19 .

A linear function has a slope of $\frac{3}{2}$ and crosses the *y*-axis at -12. What is the equation of the line?

- **A.** $y = \frac{3}{2}x - 18$
- **B.** $y = \frac{3}{2}x + 12$
- **C.** $y = -12x - \frac{3}{2}$
- **D.** $y = \frac{3}{2}x - 12$

Question 20 .

Identify the *y*-intercept of the line below.

$2x + 8y = 112$

- **A.** (56, 0)
- **B.** (0, 56)
- **C.** (14, 0)
- **D.** (0, 14)

Question 21 .

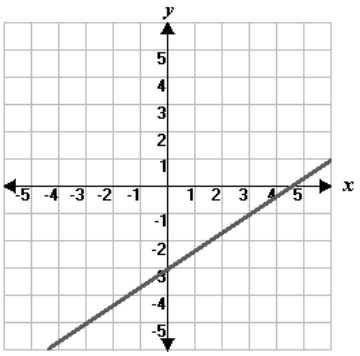
Which statement describes the rate of change of the following function?

$f(x) = 7x + 2$

- **A.** The function has a varying rate of change when $x > 2$.
- **B.** The function has a constant rate of change, increasing for all *x* at a rate of 2.
- **C.** The function has a contant rate of change, increasing for all *x* at a rate of 7.
- **D.** The function has a varying rate of change when $x > 7$.

Question 22 .

Which of the following equations matches the graph below?



○ **A.** $y = \frac{2}{3}x - 3$

○ **B.** $y = \frac{3}{2}x + 3$

○ **C.** $y = -\frac{2}{3}x - 3$

○ **D.** $y = -\frac{3}{2}x + 3$

Question 23 .

Kaylee is unpacking boxes of magazines at a bookstore. To track her progress, she records the number of boxes she has left to unpack (*y*) and the number of hours she has spent unpacking (*x*).

Hours Unpacking (*x*)	Boxes Left (*y*)
1	59
2	55
3	51
4	47

If Kaylee started with 63 boxes and continues to unpack the boxes at the same rate, how many more hours will it take her to reach her goal of 31 boxes left to unpack?

○ **A.** 3

○ **B.** 4

○ **C.** 5

○ **D.** 6

Answers

1. A
2. D
3. D
4. B
5. B
6. C
7. C
8. D
9. C
10. C
11. C
12. D
13. C
14. B
15. C
16. D
17. B
18. C
19. D
20. D
21. C
22. A
23. B