Name: _____ Class: _____ Date: _____ ID: A

Geometry Summer Packet

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Carla earns $9 per hour working at a clothing store. She is writing a function to show the relationship between her hours worked h, and her wages earned w. In Carla's function, what does the independent variable represent?

a. the number of hours worked
b. the wage earned in one hour
c. the total wages earned
d. the amount of time Carla must work to earn $1

____ 2. Which statement describes each ordered pair (x,y) in the table?

x	0	2	4	6
y	−2	2	14	34

a. y is 2 less than x.
b. y is equal to x.
c. y is 2 less than twice x.
d. y is 2 less than the square of x.

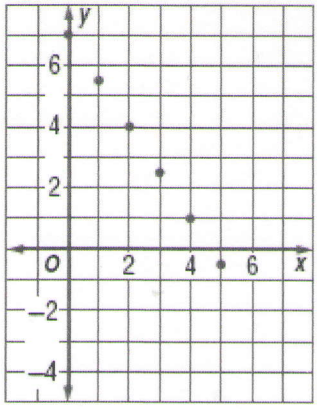
____ 3. The health club charges a $75 membership fee plus a $40 monthly fee. Wesley has $300 to spend on a health club membership. Which inequality can be used to find m, the number of months for which Wesley can afford to be a member of the health club?

a. $300 \geq 75 + 40m$
b. $300 \leq 75m + 40$
c. $300 \leq 75 + 40m$
d. $300 \geq 75m + 40$

____ 4. The number of cars sold in May m was 60 less than four times the number of cars sold in April a. Which equation shows the relationship between m and a?

a. $m = a - 60$
b. $m = 60 - 4a$
c. $m = a^4 - 60$
d. $m = 4a - 60$

____ 5. The graph below shows severeal ordered pairs for a linear function.

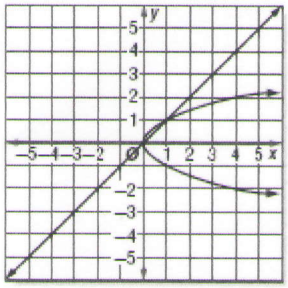


Which is the best prediction of the value of y when x is 7?

a. –1.5 b. –2 c. –2.5 d. –3.5

____ 6. Which of these shows the graphs of $y = x$ and $y = x^2$?

a.



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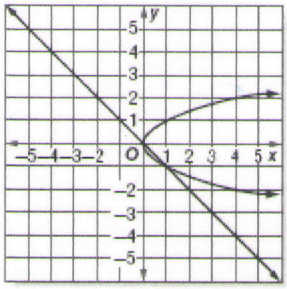

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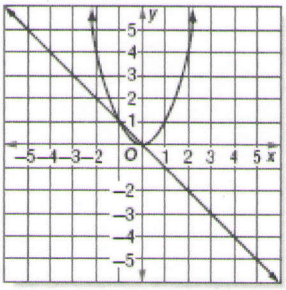

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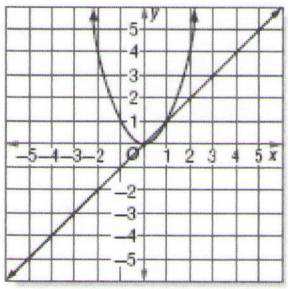
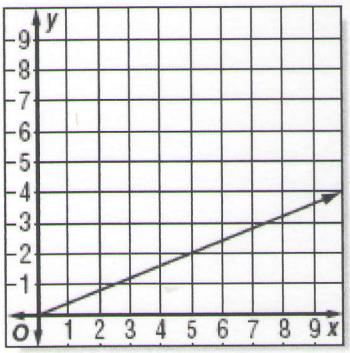


____ 7. Which relationship is best shown by the graph?



a. Oranges cost $0.50 per pound.
b. A tree grows 2 inches every 5 months.
c. The temperature of a cooler decreases 4 degrees every 10 minutes that it is open.
d. A pool's water level increases at 5 gallons per minute.

____ 8. Which relationship would most likely have a negative correlation?

a. the time elapsed, and the number of words typed
b. the temperature of the ocean, and the number of sunbathers on the beach
c. the number of students in a school, and the number of teachers in the school
d. the rate at which a car is driven, and the number of miles driven in one hour

____ 9. Which algebraic expressions represents the phrase "6 less than the sum of x and the square of x?

a. $x+x^2-6$
b. $x+\sqrt{x}-6$
c. $6-x+x^2$
d. $6-(x+x^2)$

____ 10. Which function describes the data in the table?

x	0	1	2	3
y	3	5	7	9

a. $y=x+3$
b. $y=2x+3$
c. $y=3x$
d. $y=3x-1$

____ 11. Solve for x.

$12-14x=-72$

a. -36
b. -6
c. 36
d. 6

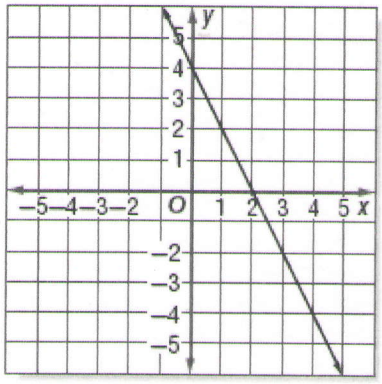
____ 12. Which expression is equivalent to $-3(8-10)$?

a. $-24-30$
b. $-24-10$
c. $-24+30$
d. $24-30$

____ 13. What is the domain of the function $f(x) = \frac{3}{x+2}$?

a. the set of all real numbers
b. the set of all real numbers except $x = -2$
c. the set of all real numbers except $x = 0$
d. the set of all real numbers except $x = 2$

____ 14. What is the equation of the line shown?



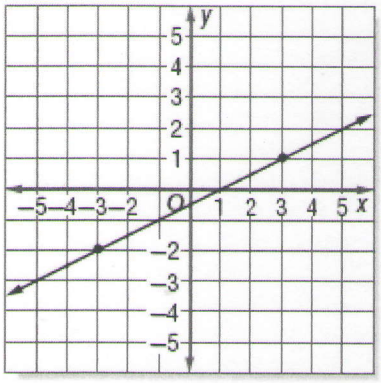
a. $y = -2x + 4$
b. $y = 4x - 2$
c. $y = -2x - 4$
d. $y = 4x + 2$

____ 15. The table below defines a linear function. What is the slope of the line?

x	y
4	7
2	3
0	−1
−2	−5
−4	−9

a. $\frac{1}{2}$
b. 2
c. $\frac{7}{4}$
d. $\frac{11}{5}$

____ 16. Which statement is NOT true for the graph below?



a. The x-intercept is 1.
b. The y-intercept is $-\frac{1}{2}$.
c. The slope is $\frac{1}{2}$.
d. The line contains the origin.

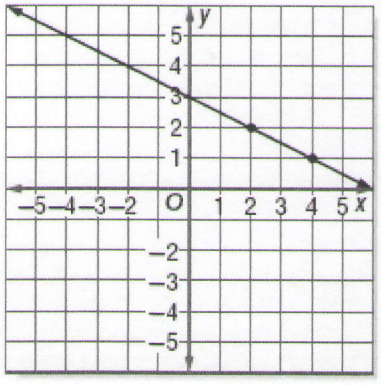
____ 17. A student graphed the line $y = 3x + 2$ plotting a connecting points A, B, and C to find the graph of $y = 3x - 5$?

a. Move each point down 5 units.
b. Move each point down 7 units.
c. Move each point left 3 units.
d. Move each point right 7 units.

____ 18. Which is an equation of the line that has a slope of $-\frac{1}{3}$ and passes through the point $(-5,2)$?

a. $x - 3y = -11$
b. $x - 3y = 11$
c. $x + 3y = 1$
d. $x + 3y = 21$

____ 19. The graph shows part of the line $y = -\frac{1}{2}x + b$. What is the value of b?



a. $-\frac{1}{2}$
b. 2
c. 3
d. 6

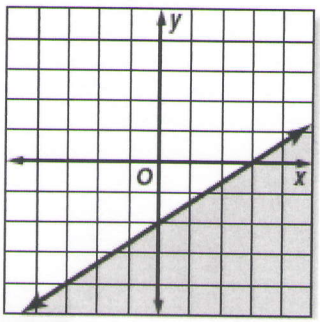
____ 20. The weight of an object on the moon varies directly as its weight on earth. The constant of variation is 6. Which equation describes this relationship?

a. $y = 6x$
b. $y = x + 6$
c. $xy = 6$
d. $x + y = 6$

____ 21. Adam bought CDs for \$18 each and T-shirts for \$11 each. Altogether, he spent \$105. Which equation best represents Adam's purchase?

a. $4c + 3t = 105$
b. $18c + 11t = 105$
c. $29ct = 105$
d. $(18 + 11)(c + t) = 105$

____ 22. In which graph does the shaded area show the solutions to the inequality $3x - 2y \leq 6$?

a.


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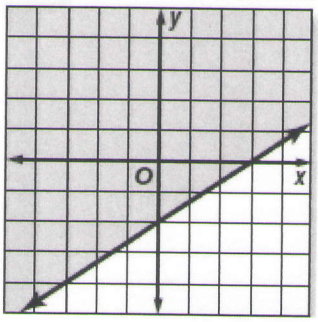

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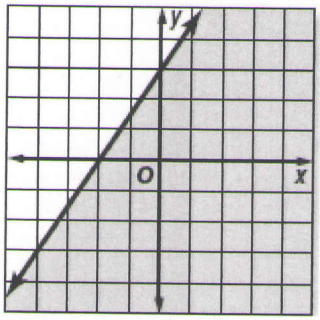
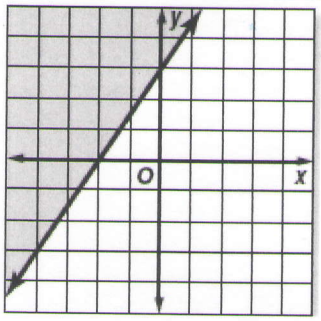


d.


____ 23. Which is NOT a reasonable solution to the inequality $2x \geq x$?

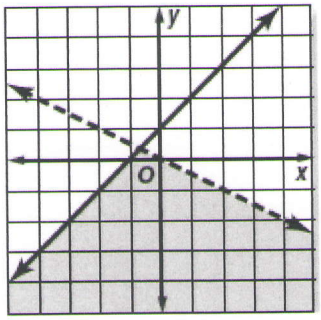
a. $x = -1$ b. $x = 0$ c. $x = 1$ d. $x = 2$

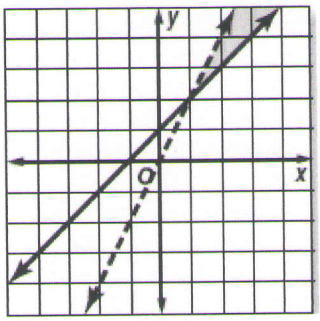
____ 24. Molly has \$5.20 in dimes and quarters. The number of dimes is 3 more than the number of quarters. Which system of linear equations can be used to find d, the number of dimes, and q, the number of quarters?

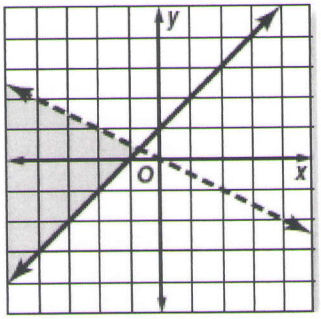
a. $3q + d = 5.20$
$q + d = 0.35$
b. $d = 3 + q$
$0.10d + 0.25q = 5.20$
c. $(q + 3) + q = 5.20$
$q + d = 0.35$
d. $q = 3 + d$
$0.10d + 0.25q = 5.20$

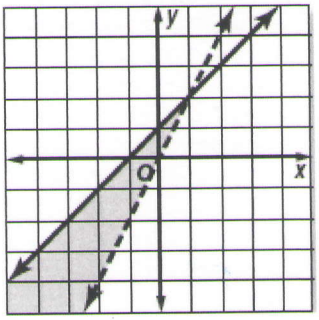
____ 25. Which shows the solution set of the following system of inequalities?

$$x - y \le -1$$
$$x + 2y < 0$$

a. 

c. 

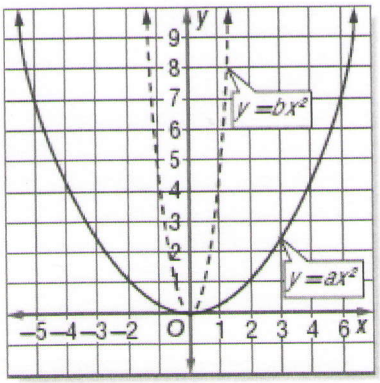
b. 

d. 

____ 26. What is the range of the function $f(x) = 3x^2 - 7$?

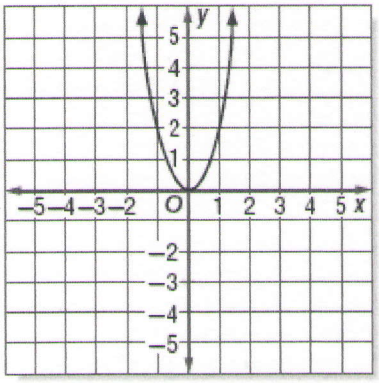
a. $y \ge 7$ b. $y \le 7$ c. $y \ge -7$ d. $y \le -7$

____ 27. The graph of $y = ax^2$ and $y = bx^2$ are shown below. Which statement describes the relationship between a and b?



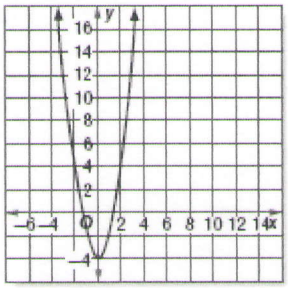
a. $a = b$
b. $a > b$
c. $a < b$
d. There is not enough information to determine the relationship.

____ 28. The graph of $y = 2x^2$ is shown below.

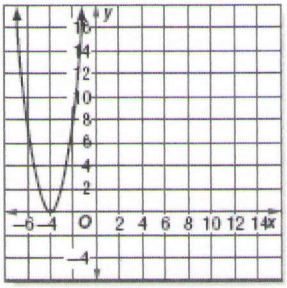


Which of the following shows the graph of $y = 2x^2 - 4$?

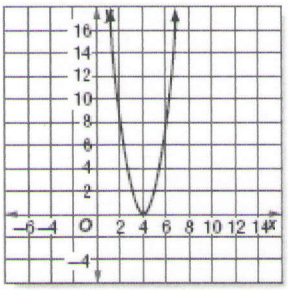
a.



c.



b.



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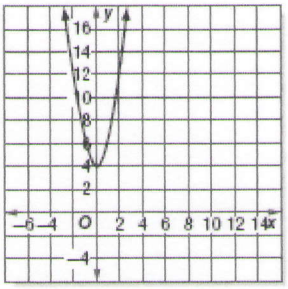

____ 29. What are the solutions to the equation $2x^2 + 9x = 5$?

a. $x = -1, x = \frac{5}{2}$

b. $x = 1, x = -\frac{5}{2}$

c. $x = 5, x = -\frac{1}{2}$

d. $x = -5, x = \frac{1}{2}$

____ 30. Simplify $\dfrac{\sqrt{a} \bullet b^2}{a^{\frac{3}{2}} b^5}$.

a. $a^{\frac{1}{3}} b^{\frac{2}{5}}$

b. $a^{\frac{3}{4}} b^{10}$

c. $\dfrac{1}{ab^3}$

d. $\dfrac{1}{a^{\frac{3}{4}} b^3}$