Name_____ Date _____

Algebra 1 Midterm Review Packet #1

Multiple Choice Questions:

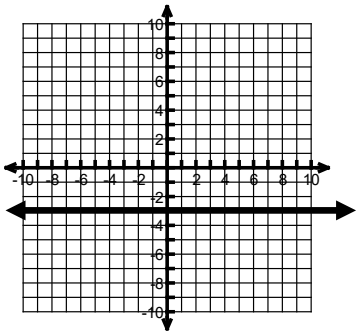
1. The expression $-|-7|$ is equivalent to

(1) 1 (3) 7
(2) 0 (4) –7

2. If a= -4 and b = 3, what is the value of $|a| + |b|$

(1) 7 (3) 1
(2) -7 (4) -1

3. The diagram at the right shows the graph of which equation?



(1) $y = 3$

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

4. If x = –4 and y = 3, what is the value of $x - 3y^2$?

(1) –13 (3) –31
(2) –23 (4) –85

5. If $t = -3$, then $3t^2 + 5t + 6$ equals

(1) -36 (3) 6
(2) -6 (4) 18

6. Which property is illustrated by the equation $4x(2x - 1) = 8x^2 - 4x$?

(1) associative (3) distributive
(2) commutative (4) identity

7. Which equation illustrates the associative property of addition?

(1) $x + y = y + x$ (3) $(3 + x) + y = 3 + (x + y)$
(2) $3(x + 2) = 3x + 6$ (4) $3 + x = 0$

8. If a and b are integers, which equation is always true?

(1) $\frac{a}{b} = \frac{b}{a}$ (3) $a - b = b - a$

(2) $a + 2b = b + 2a$ (4) $a + b = b + a$

9. If n represents an odd number, which computation results in an answer that is an even number?

(1) $2 \times n + 1$ (3) $3 \times n - 2$
(2) $2 \times n - 1$ (4) $3 \times n + 1$

10. Mrs. Smith wrote "Eight less than three times a number is greater than fifteen" on the board. If x represents the number, which inequality is a correct translation of this statement?

(1) $3x - 8 > 15$ (3) $8 - 3x > 15$
(2) $3x - 8 < 15$ (4) $8 - 3x < 15$

11. The sum of Scott's age and Greg's age is 33 years. If Greg's age is represented by g, Scott's age is represented by

(1) $33 - g$ (3) $g + 33$
(2) $g - 33$ (4) $33g$

12. If $-2x + 3 = 7$ and $3x + 1 = 5 + y$, the value of y is

(1) 1 (3) -10
(2) 0 (4) 10

13. If $9x + 2a = 3a - 4x$, then x equals

(1) a (3) $\frac{5a}{12}$
(2) $-a$ (4) $\frac{a}{13}$

14. If $x = 2a - b^2$, then a equals

(1) $\frac{x - b^2}{2}$ (3) $\frac{b^2 - x}{2}$

(2) $\frac{x + b^2}{2}$ (4) $x + b^2$

15. If $2x + 5 = -25$ and $-3m - 6 = 48$, what is the product of x and m?

(1) –270 (3) 3
(2) –33 (4) 270

16. At the beginning of her mathematics class, Mrs. Reno gives a warm-up problem. She says, "I am thinking of a number such that 6 less than the product of 7 and this number is 85." Which number is she thinking of?

(1) 11 (3) 84
(2) 13 (4) 637

17. If one-half of a number is 8 less than two-thirds of the number, what is the number?

(1) 24 (3) 48
(2) 32 (4) 54

18. If the temperature in Buffalo is 23° Fahrenheit, what is the temperature in degrees Celsius? [Use the formula $C = \frac{5}{9}(F - 32)$.]

(1) –5 (3) –45
(2) 5 (4) 45

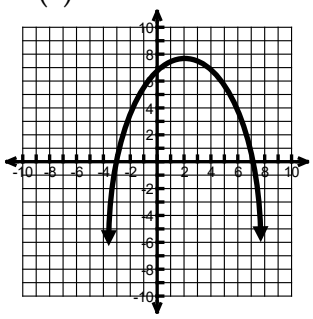
19. If $3ax + b = c$, then x equals

(1) $c - b + 3a$ (3) $\frac{c - b}{3a}$

(2) $c + b - 3a$ (4) $\frac{b - c}{3a}$

20. Which graph *does not* represent a linear function?

(1)



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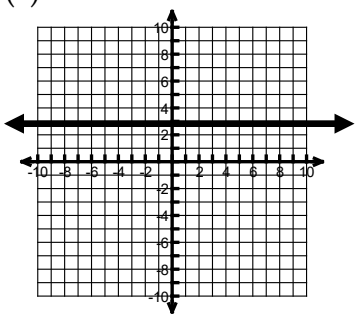

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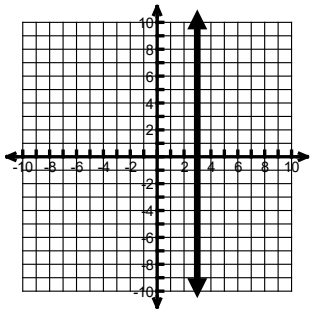

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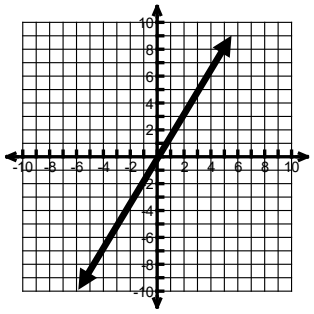


21. If x and y are defined as indicated by the accompanying table, which equation correctly represents the relationship between x and y?

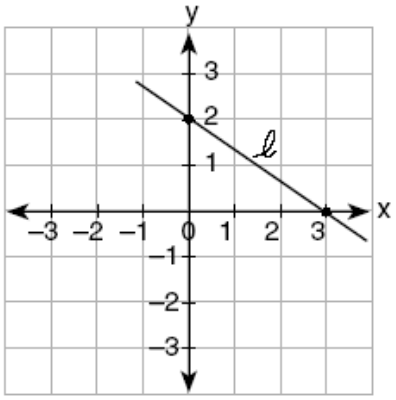
x	y
2	1
3	3
5	7
7	11

(1) $y = x + 2$
(2) $y = 2x + 2$
(3) $y = 2x + 3$
(4) $y = 2x - 3$

22. Which statement describes the graph of $x = 4$?

(1) It passes through the point (0, 4).
(2) It has a slope of 4.
(3) It is parallel to the y-axis.
(4) It is parallel to the x-axis.

23. What is the slope of line ℓ in the accompanying diagram?



(1) $-\frac{3}{2}$ (3) $\frac{2}{3}$

(2) $-\frac{2}{3}$ (4) $\frac{3}{2}$

24. If point (-1,0) is on the line whose equation is $y = 2x + b$, what is the value of b?

(1) 1 (3) 3

(2) 2 (4) 0

25. What is the slope of the line whose equation is $3x - 4y - 16 = 0$?

(1) $\frac{3}{4}$ (3) 3

(2) $\frac{4}{3}$ (4) –4

26. Which equation represents a line that is parallel to the line whose equation is $2x + 3y = 12$?

(1) $6y - 4x = 2$ (3) $4x - 6y = 2$

(2) $6y + 4x = 2$ (4) $6x + 4y = -2$

27. Which ordered pair is the solution of the following system of equations?

$3x + 2y = 4$
$-2x + 2y = 24$

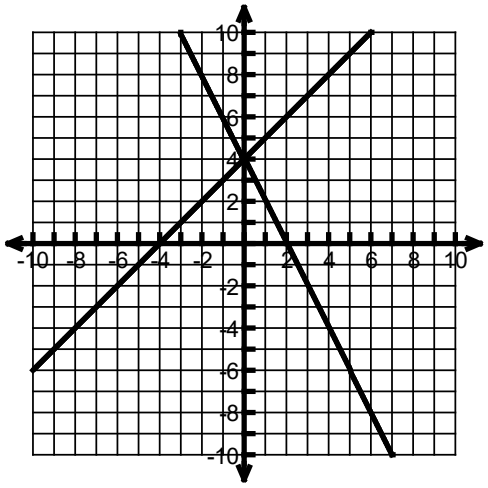
(1) (2,–1) (3) (–4,8)

(2) (2,–5) (4) (–4,–8)

28. The equations $5x + 2y = 48$ and $3x + 2y = 32$ represent the money collected from school concert ticket sales during two class periods. If x represents the cost for each adult ticket and y represents the cost for each student ticket, what is the cost for each adult ticket?

(1) \$20
(2) \$10
(3) \$8
(4) \$4

29. Which point is the solution set of the system of equations shown in the accompanying graph?

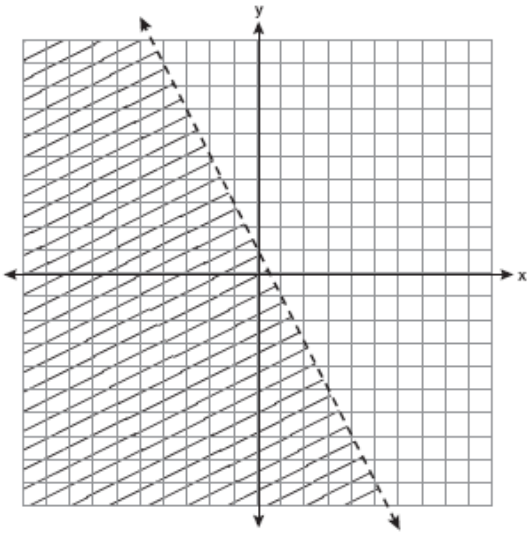


(1) (0,4)
(2) (2,4)
(3) (–4,1)
(4) (4, –1)

30. Which value of x is *not* in the solution set of the inequality $-2x + 15 > 17$?

(1) -8
(2) -6
(3) -4
(4) 12

31. Which inequality is represented by the graph below?



(1) $y < 2x + 1$
(2) $y < -2x + 1$
(3) $y < \frac{1}{2}x + 1$
(4) $y < -\frac{1}{2}x + 1$

Free Response Questions:

1. What is the value of x in the equation? $13x - 2(x + 4) = 8x + 1$?

2. Sara's telephone service costs \$21 per month plus \$0.25 for each local call, and long-distance calls are extra. Last month, Sara's bill was \$36.64, and it included \$6.14 in long-distance charges. How many local calls did she make?

3. Solve for x: $3.3 - x = 3(x - 1.7)$

4. The tickets for a dance recital cost \$5.00 for adults and \$2.00 for children. If the total number of tickets sold was 295 and the total amount collected was \$1,220, how many adult tickets were sold

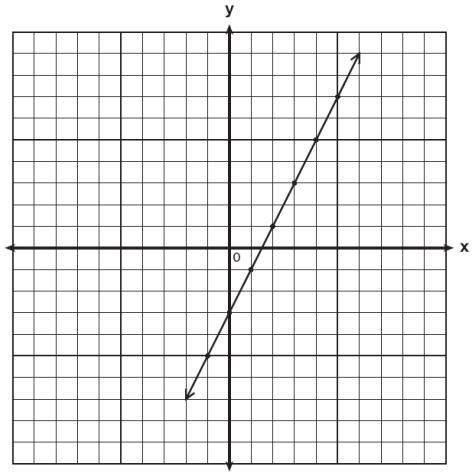
5. A swimmer plans to swim at least 100 laps during a 6-day period. During this period, the swimmer will increase the number of laps completed each day by one lap. What is the *least* number of laps the swimmer must complete on the first day?

6. Solve $\frac{3}{4}x+2=\frac{5}{4}x-6$?

7. Write an equation that represents the line that passes through the points (2, -3) and (-5, 1).

8. Write an equation of the line parallel to $y=\frac{2}{3}x-2$ and that passes through the point (3,7).

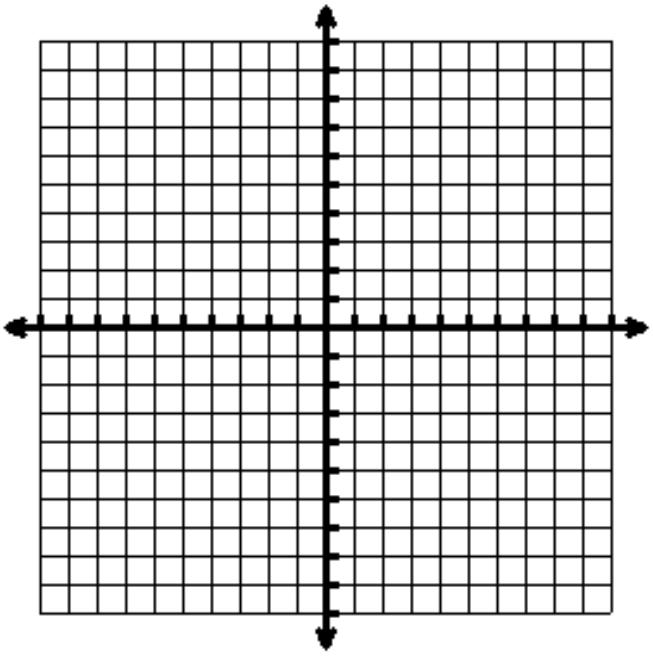
9. Write the equation for the line shown in the accompanying graph. Explain your answer.



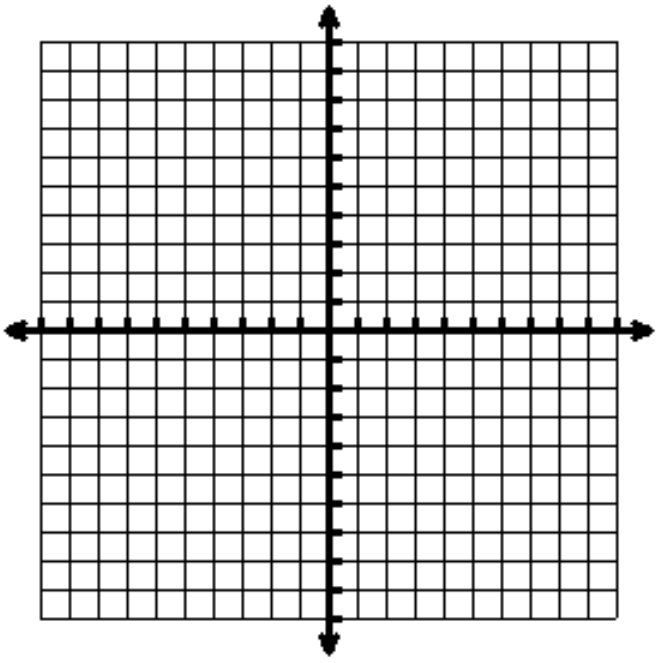
10. Solve graphically:

$4y + 2x = 12$

$y = x - 3$



11. Graph: $2x - y \geq 4$



Algebra 1 Midterm: Thursday - January 23rd, 2020 8:15-10:15am