Name _____ Class _____ Date _____

Algebra 1 STAAR EOC Review #7
Reporting Category 4: Linear Equations and Inequalities
A.7abc

RC3 A.07A

1. Passengers on many commercial flights may make calls from a telephone provided by the airline. On a certain airline a call costs $3 to connect plus $2 for each minute. Which equation best represents *c*, the total cost for a call that lasts *m* minutes?

   A. $m = 3 + 2c$
   B. $c = 3 + 2m$
   C. $m = 2 + 3c$
   D. $m = 2 + 3c$

2. At Northwest Electronics audiotapes cost $5.00 per package, and videotapes cost $10.00 per package. Which inequality best describes the number of packages of audiotapes, *a*, and the number of packages of videotapes, *v*, that can be purchased for $45.00 or less?

   F. $5z + 10v < 45$
   G. $10a + 5v \leq 45$
   H. $5a + 10v \leq 45$
   J. $10a + 5v < 45$

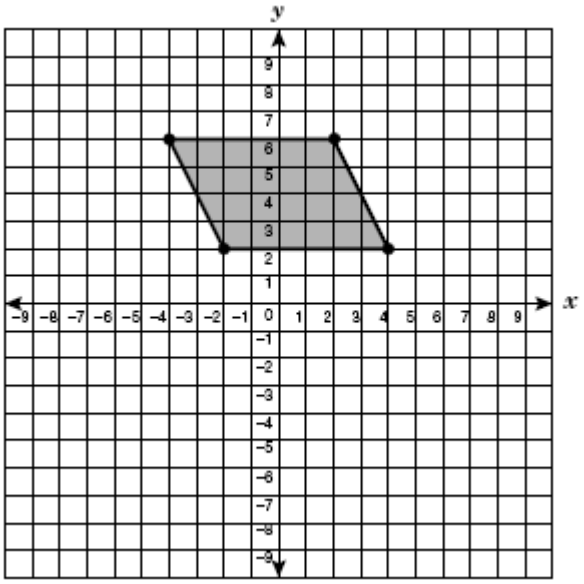
3. Joan went to a department store to buy a sweater that was on sale for 25% off the original price, *p.* Which equation can be used to determine *s*, the sale price of the sweater, not including tax?

   A. $s = p + 0.75p$
   B. $s = p + 0.25p$
   C. $s = p - 0.75p$
   D. $s = p - 0.25p$

4. A chemist started an experiment with 5 grams of a chemical. The chemical was used at a rate of 0.01 gram per minute. Which equation best describes the relationship between *c*, the amount of chemical remaining in grams, and *t*, the time in minutes?

   A. $c = 5.01t$
   B. $c = 4.99t$
   C. $c = 5 - 0.01t$
   D. $c = 0.01t - 5$

5. A shaded parallelogram is graphed on the coordinate grid below.



   Which of the following functions describes a line that would include an edge of the shaded parallelogram?

   F. $y = -2x + 5$
   G. $y = -2x - 2$
   H. $y = -2x + 9$
   J. $y = -2x - 1$

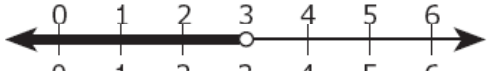
6. Ida has a budget of $25 to spend on flowers. A package of flowers costs $1.99, and a hanging basket of flowers costs $5.10. Both prices include tax. Which inequality can be used to determine p, the number of packages of flowers she can buy if she also buys a hanging basket of flowers?

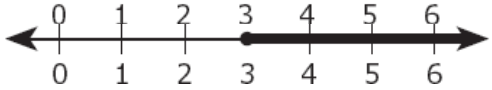
F. $1.99p - 5.10 \leq 25$
G. $5.10 + 1.99p \leq 25$
H. $(1.99 + 5.10)p \leq 25$
J. $5.10 - 1.99p \leq 25$

RC 4 A.07B

7. Which of these best represents the solution set of $3x - 1 > 8$?

A.


B.


C.


8. A salesclerk earns $6.50 per hour. In one week she earned a total of $188.50. How many hours did the salesclerk work during this week?

F. 29 hours
G. 46 hours
H. 26 hours

9. Auto-Check Motors charged Mr. Jones $84.00 for an automotive part plus $68.00 per hour that a mechanic worked to install the part. The total charge was $353.00. For about how long did the mechanic work to install the part on Mr. Jones's car?

A. 6 h
B. 5 h
C. 4 h
D. 3 h

10. What is the solution to $2x - 18 < -36$?

F. $x < 0$
G. $x < -9$
H. $x < -27$

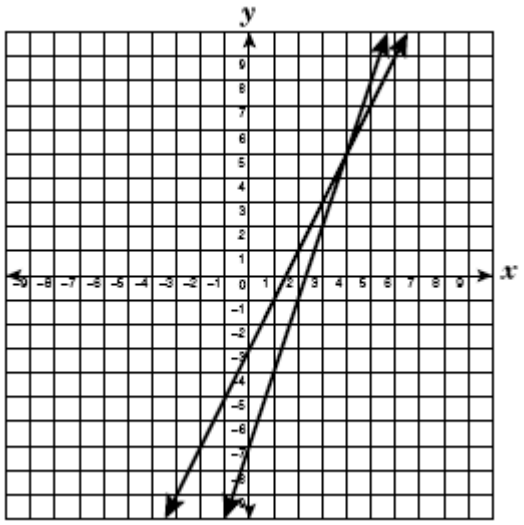
11. Anna makes hand-painted plates. Her overhead costs are $750 per week, and she pays an additional $10 per plate in material costs. If Anna sells the plates for $25 each, how many plates does she have to sell each week before she can make a profit?

A. 20
B. 30
C. 50
D. 75

12. What is the value of y if $(3, y)$ is a solution to the equation $5x - 3y = 18$?

F. 3
G. 1
H. -1
J. -11

13. The graphs of the linear equations $y = 2x - 3$ and $y = 3x - 7$ are shown below.



If $2x - 3 = 3x - 7$, what is the value of x?

A. 4
B. 5
C. 9
D. 10

14. If $(x, -4)$ is a solution to the equation $4x - 5y = 8$, what is the value of x?

F. -4.8
G. -3
H. 1.6
J. 7

15. If $(5\frac{1}{3}, y)$ is a solution to the equation $5x - 4y - 20 = 0$, what is the value of y?

A. $-11\frac{2}{3}$

B. $8\frac{4}{15}$

C. $\frac{4}{15}$

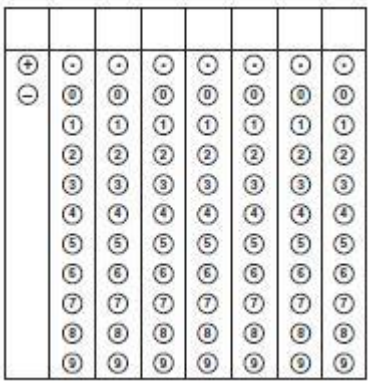
D. $1\frac{2}{3}$

16. The length of each leg of an isosceles triangle is 5 centimeters more than twice the length of the base. If the perimeter of this isosceles triangle is 95 centimeters, what is the length of the base?

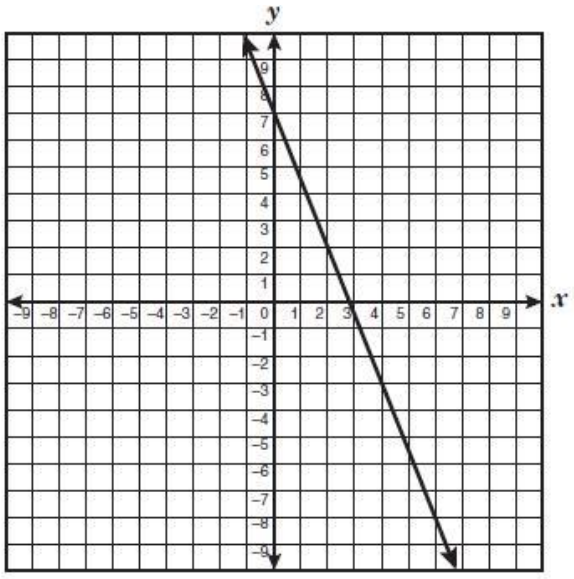
F. 17 cm
G. 21 cm
H. 30 cm
J. 39 cm

17. The equation $F = \frac{9}{5}C + 32$ represents the relationship between *F*, the temperature in degrees Fahrenheit, and *C*, the temperature in degrees Celsius. If the temperature is 104°F, what is the temperature in degrees Celsius?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.



18. The graph of the linear equation $y = -\frac{5}{2}x + 7$ is shown below.

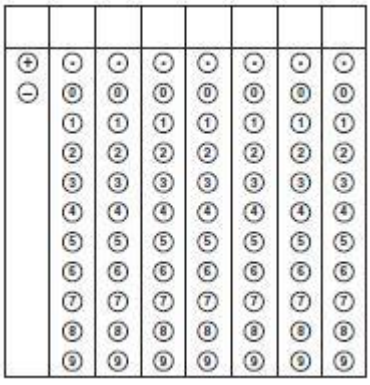


Which coordinate pair is the solution set of $y\langle -\frac{5}{2}x + 7$?

F. (4,-3)
G. (1,2)
H. (5,6)
J. (0,7)

19. In the equation $6.5x + 1.4y = 59$, what is the value of x when $y = 5$?

Record your answer and fill in the bubbles on your answer document.
Be sure to use the correct place value.



RC 4 A.07C

20. In 1998 the enrollment at a community college was approximately 2500 students. In 2002 the enrollment had increased to 3250 students. If the enrollment continues to increase at this rate, what is a reasonable projection of enrollment for 2010?

F. 4750
G. 5750
H. 6250
J. 9000

21. A waitress at a restaurant calculated her daily pay, p, using the equation $p = 0.15f + 17.60$, where f is the total amount of food purchased by customers. If the waitress sold between \$600.00 and \$720.00 in food, then the amount of her daily pay should be between-

A. \$40.00 and \$48.00
B. \$57.00 and \$65.00
C. \$90.00 and \$108.00
D. \$107.60 and \$125.60

22. Harris has \$20.92 to spend on video-game rentals at a local video store. The store charges \$3.95 per video-game rental plus an 8.125% tax. What is the maximum number of video games that Harris can rent?

F. 5
G. 4
H. 6
J. 3

23. Nancy plans to take her cousins to an amusement park. She has a total of \$100 to pay for 2 different charges.

- \$5 admission per person
- \$3 per ticket for rides

Which inequality could Nancy use to determine y, the number of tickets for rides she can buy if she pays the admission for herself and x cousins?

F. $5y + 3(x + 1) \geq 100$
G. $5(x + 1) + 3y > 100$
H. $5y + 3(x + 1) < 100$
J. $5(x + 1) + 3y \leq 100$

24. A florist plans to sell bouquets for \$25 each. He wants to use only roses and carnations in each bouquet and needs to charge the following amount for each type of flower.

\$1.50 per rose

\$1.25 per carnation

Which of these combinations of roses and carnations will result in bouquets that the florist can sell for exactly \$25 each?

I. 18 roses and 2 carnations

II. 6 roses and 10 carnations

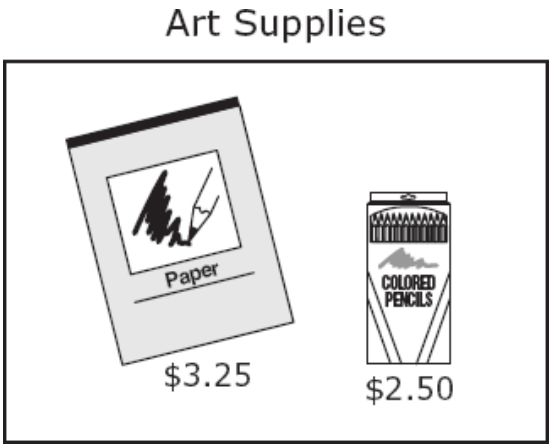
III. 10 roses and 8 carnations

IV. 5 roses and 14 carnations

A. I and II only
B. II and III only
C. III and IV only
D. I and IV only

25. Andy has only \$20 to spend on art supplies.

- Paper costs \$3.25 per package.
- Colored pencils cost \$2.50 per package.



Which is a reasonable combination of packages of paper and colored pencils that Andy can buy with only \$20?

A. 3 packages of paper and 4 packages of colored pencils
B. 1 package of paper and 7 packages of colored pencils
C. 5 packages of paper and 2 packages of colored pencils