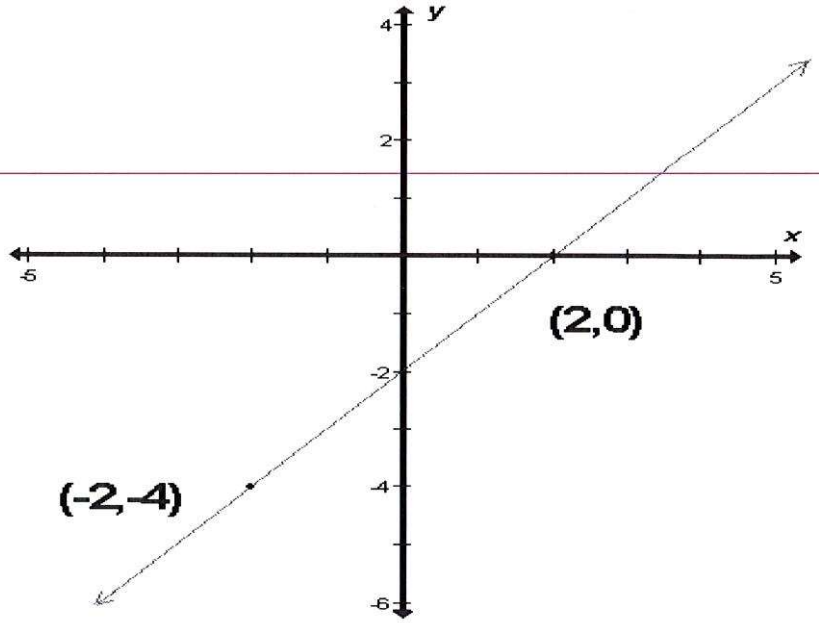
PART 1 OMIT #'s 13-15

MATH 1 – UNIT 2 EXAM 2018-19 **Multiple Choice. Identify the choice that best completes the statement or answers the question.**

1) What is the equation of the line in the following graph? (A.REI.10)

A. $y = x + 2$
B. $y = -x - 2$
C. $y = x - 2$
D. $y = 2x - 2$



2) A house painter starts a job with 65 gallons of paint, and uses 5 gallons every hour. What is the equation of the graph that represents all solutions for this situation? If he started 6 hours ago, how many gallons of paint should he have left? (A.REI.10)

A. y = 5x + 65; 95 gallons

B. y = −5x – 65; −95 gallons

C. y = −5x + 65; 35 gallons

D. y = 5x – 65; −35 gallons

3) Which linear equation represents the data in the accompanying table? (A.REI.10)

c	*d*
0	20.00
1	21.50
2	23.00
3	24.50

A. $d = 1.50c$
B. $d = 1.50c + 20.00$
C. $d = 20.00c + 1.50$
D. $d = 21.50c$

4) At the beginning of each week, Isaac recorded the amount of money he had in his checking account. The information is provided in the table below. (F.IF.6)

Week	Money($)
1	$17.25
2	$23.26
3	$25.92
4	$38.79
5	$59.57
6	$82.37

What is the average rate of change in the amount of money in the checking account from Week 1 to Week 5?

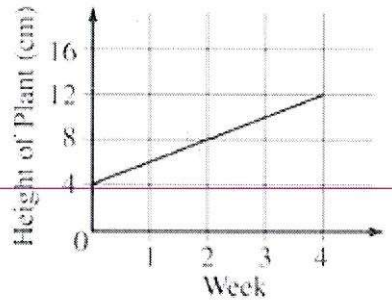
A. $10.58 per week
B. $9.61 per week
C. $7.84 per week
D. $6.01 per week

5) A microbiologist is studying a bacterial culture. Every hour she counts the number of bacteria. Her data is recorded in the table. What is the average increase between 10 am and 1 pm? Round to the nearest integer. (F.IF.6)

Time	Number of bacteria
8 am	31
9 am	67
10 am	161
11 am	368
12 pm	842
1 pm	1918
2 pm	4433
3 pm	10172

A. 639 bacteria per hour
B. 617 bacteria per hour
C. 586 bacteria per hour
D. 439 bacteria per hour

6) The height of a plant over 4 weeks is shown in the graph below. (F.IF.6)



What is the rate of growth of the plant, in centimeters per week?

A. 2

B. 3

C. 8

D. 12

7) **Quality Limousine charges a fee of $50 per hour to rent a limousine plus $0.15 per mile driven. Which equation could be used to determine *c*, the total cost to rent a limousine for *h* hours, if *m* represents the number of miles the limousine is driven?** (F.IF.9)

A. c = 50m + 0.15h

B. c = 50h + 0.15m

C. c = 50 + 0.15hm

D. c = 50hm + 0.15

8) What is the slope of the line represented by the equation 4x + 3y = 7? (F.IF.9)

A. $\frac{7}{4}$ B. $\frac{7}{3}$

C. $-\frac{3}{4}$ D. $-\frac{4}{3}$

9) What is the slope and y-intercept of the equation $4x - 3y = 2$? (F.IF.9)

A. $m = 4$ and $b = -3$

B. $m = -\frac{4}{3}$ and $b = -\frac{2}{3}$

C. $m = \frac{4}{3}$ and $b = -\frac{2}{3}$

D. $m = \frac{4}{3}$ and $b = \frac{2}{3}$

10) A parking garage charges $25.00 for up to 3 hours. The cost of each additional hour of parking is $4.50. If *d* represents the total number of additional hours and *c* represents the total charge for parking, which linear equation can be used to determine the amount owed? (A.CED.2)

A. $c = 25 - 4.50d$
B. $c = 29.50d$
C. $c = 25 + 4.50d$
D. $c = 4.50(d - 3) + 25$

11) Sarah goes to a bakery to buy doughnuts for work.

- Sarah has $55.00 to spend.
- The cost of a doughnut is $0.65.

Which equation models the relationship between the amount of money Sarah has left, y, after buying x dozen doughnuts? (A.CED.2)

A. $y = 0.65x + 55$

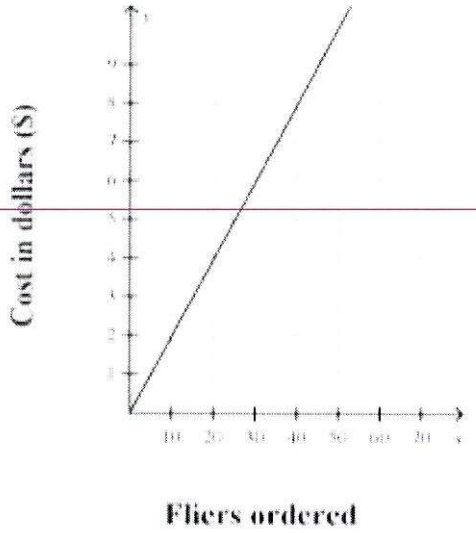
B. $y = 55 - 0.65x$

C. $y = 7.80x + 55$

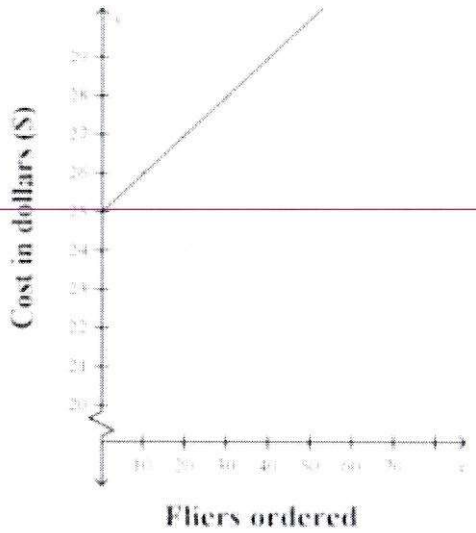
D. $y = 55 - 7.80x$

12) An advertising service charges $25.00 a year as well as $0.20 for each flier ordered. Which graph models the total cost of ordering fliers? (A.CED.2)

a.



c.



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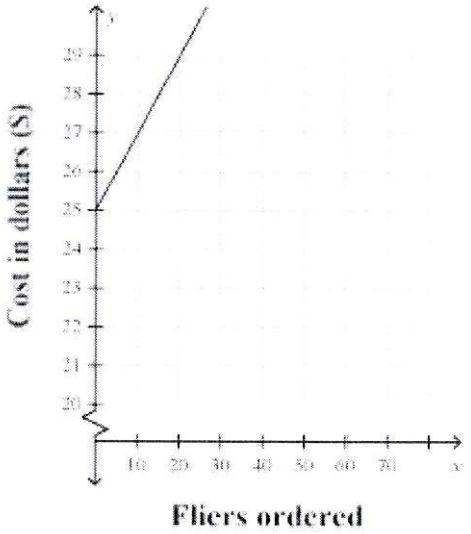

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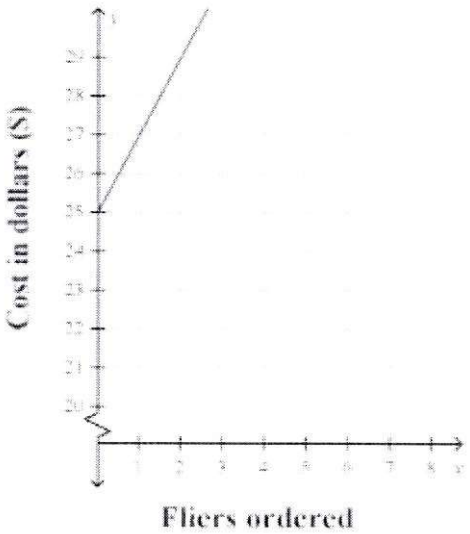
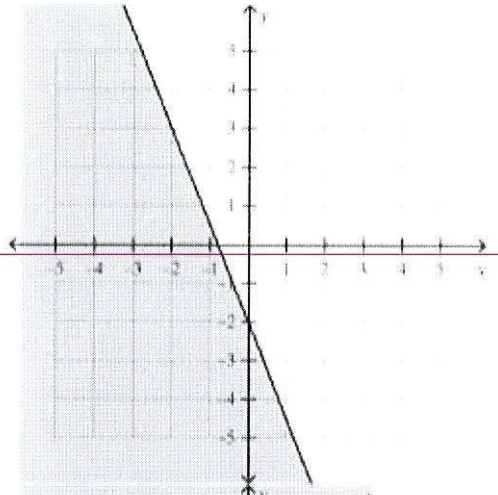
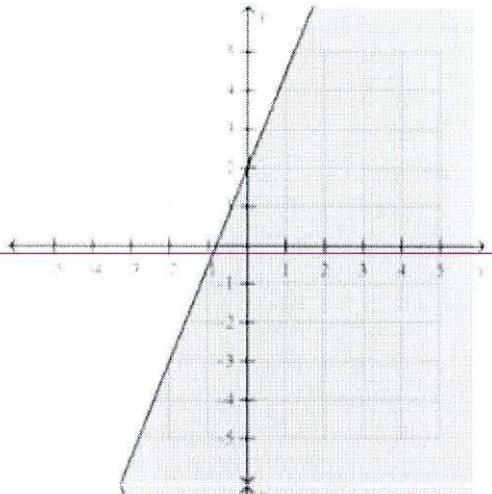


13) Which graph represents the solution to the inequality $5x + 2y > -4$? (A.REI.12)

a.



c.



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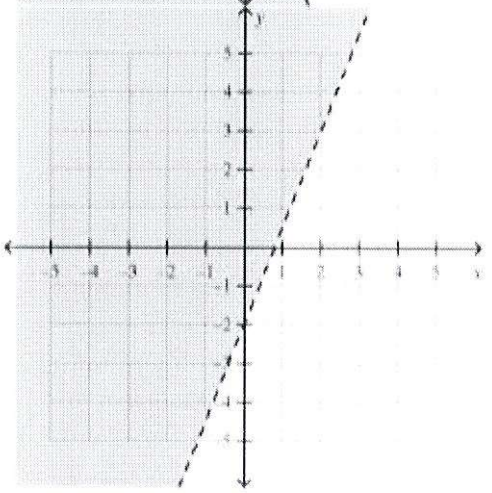
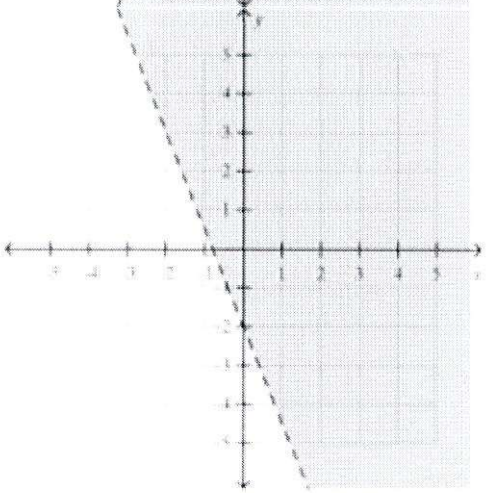
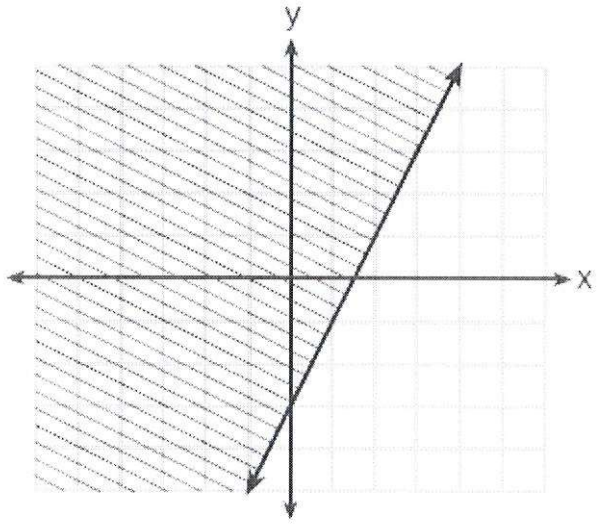


d.



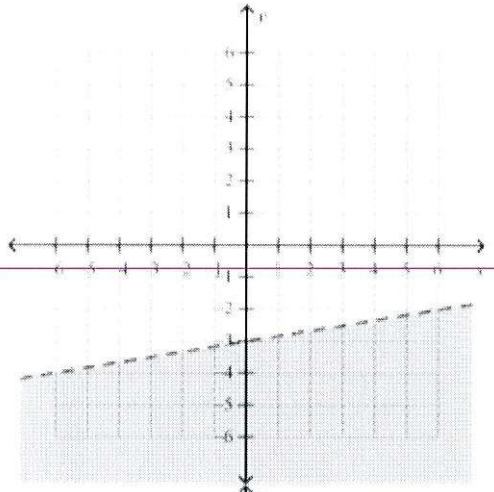
14) Which inequality is represented by the graph below? (A.REI.12)



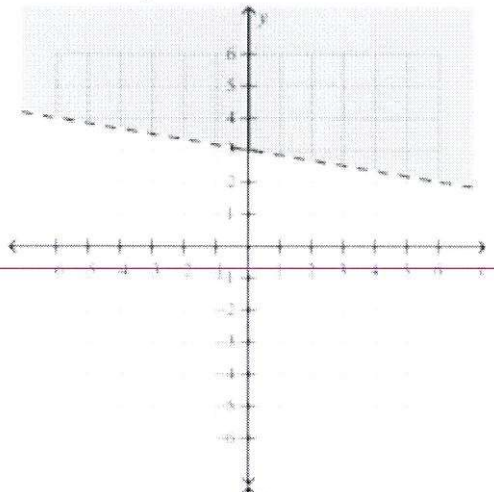
A. $y \leq 2x - 3$
B. $y \geq 2x - 3$
C. $y \leq -3x - 2$
D. $y \geq -3x - 2$

15) Which graph represents the solution to the inequality $y < \frac{1}{6}x - 3$? (A.REI.12)

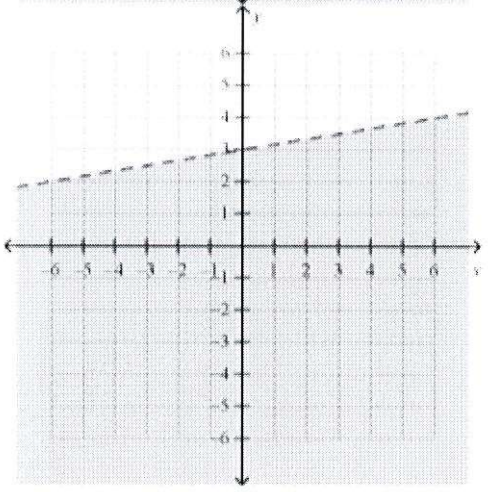
a.



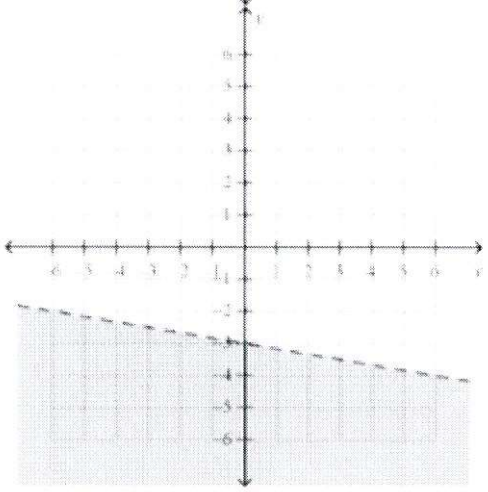
c.



b.



d.



16) What is the equation that represents a line that is perpendicular to the line y = 3x – 4 and passes through the point (−6, 6)? (G.GPE.5)

A. $y = 3x + 4$

C. $y = -\frac{1}{3}x + 4$

B. $y = \frac{1}{3}x + 8$

D. $y = -\frac{1}{3}x - 4$

17) What is an equation of the line that passes through the point (−2, 1) and is parallel to the line whose equation is $4x - 2y = 8$? (G.GPE.5)

A. $y = \frac{1}{2}x + 2$

C. $y = 2x + 5$

B. $y = \frac{1}{2}x - 2$

D. $y = 2x - 5$

18) The lines whose equations are $2x + 3y = 4$ and $y = mx + 6$ will be perpendicular when m is:

(G.GPE.5)

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

C. $\frac{3}{2}$

B. $-\frac{2}{3}$

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

19) Find the explicit formula for the sequence: 10, 2, −6, −14 (F.BF.2)

A. $a_n = 8n + 18$

B. $a_n = n + 26$

C. $a_n = -8n + 18$

D. $a_n = -8(n + 18)$

20) The sequence below represents the amount of money in Cassandra's lunch account at the end of each school day for days 1, 2, 3, 4, and 5.

$200, $197, $194, $191, $188,...

Assuming she continues to buy lunch until she does not have enough money, which function could be used to find the balance of Cassandra's lunch account at the end of day x? (F.BF.2)

A. $A(x) = x - 3$

B. $A(x) = -3x + 203$

C. $A(x) = -3x + 200$

D. $A(x) = 3x - 203$

YOU HAVE COMPLETED THE MULTIPLE CHOICE PART OF THE TEST.

CLICK SUBMIT AND RAISE YOUR HAND FOR THE OPEN-RESPONSE PART OF THE TEST.

PART 2 OMIT #s 5-8

MATH 1 – UNIT 2 ASSESSMENT Part B

1) A parking garage charges $25.00 for up to 3 hours. The cost of each additional hour of parking is $4.50. If *d* represents the total number of additional hours and *c* represents the total charge for parking, which linear equation can be used to determine the amount owed? (A.CED.2)

A. $c = 25 - 4.50d$
B. $c = 29.50d$
C. $c = 25 + 4.50d$
D. $c = 4.50(d - 3) + 25$

2) Sarah goes to a bakery to buy doughnuts for work.

- Sarah has $55.00 to spend.
- The cost of a doughnut is $0.65.

Which equation models the relationship between the amount of money Sarah has left, y, after buying x dozen doughnuts? (A.CED.2)

A. $y = 0.65x + 55$

B. $y = 55 - 0.65x$

C. $y = 7.80x + 55$

D. $y = 55 - 7.80x$

3) The length of a rectangle is 4 more than twice its width, w. Which equation represents the area, A, of the rectangle? (A.CED.2)

A. $A = 2w + 4$

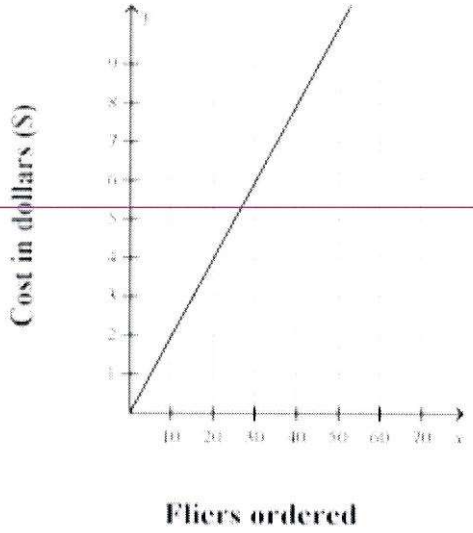
B. $A = 2w^2 + 4w$

C. $A = 4w + 2$

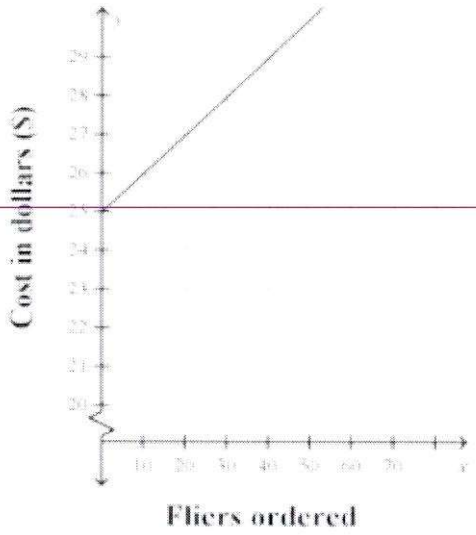
D. $A = 4w^2 + 2w$

4) An advertising service charges $25.00 a year as well as $0.20 for each flier ordered. Which graph models the total cost of ordering fliers? (A.CED.2)

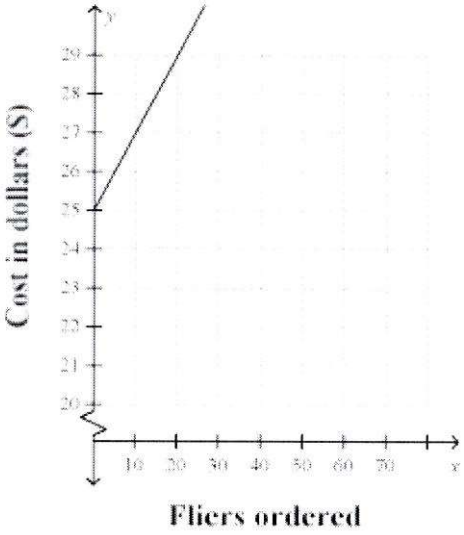
a.



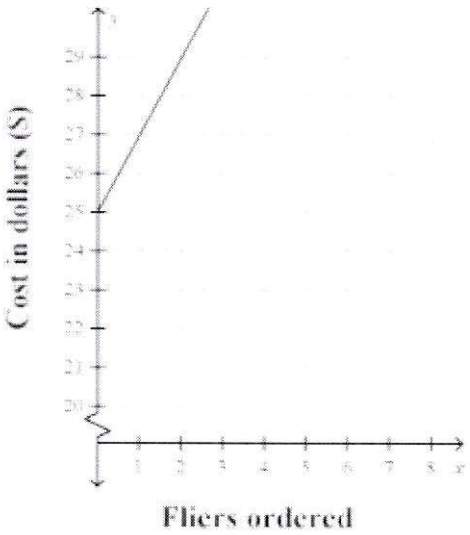
c.



b.

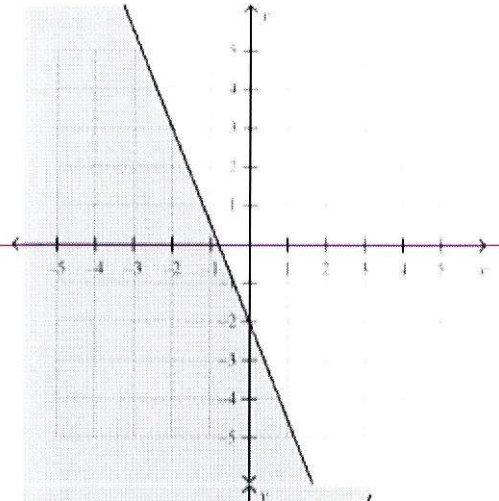


d.

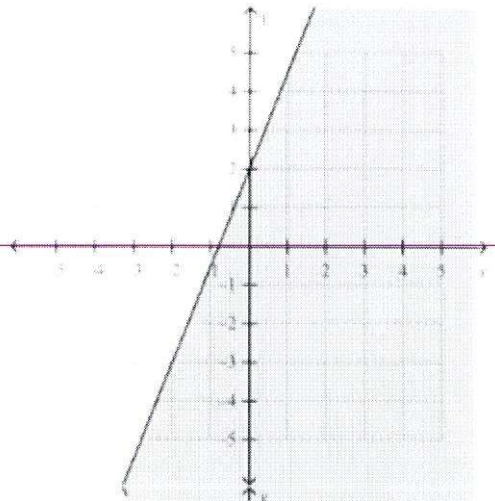


5) Which graph represents the solution to the inequality $5x + 2y > -4$? (A.REI.12)

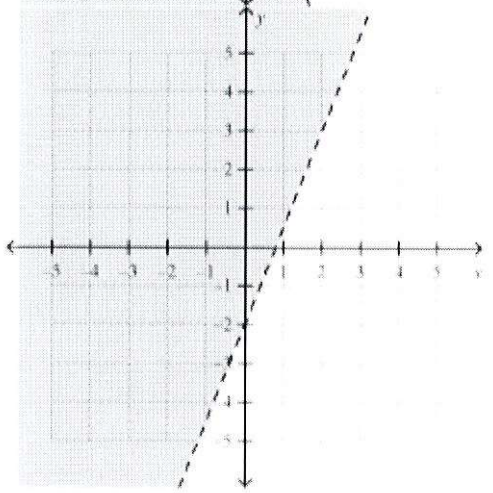
a.



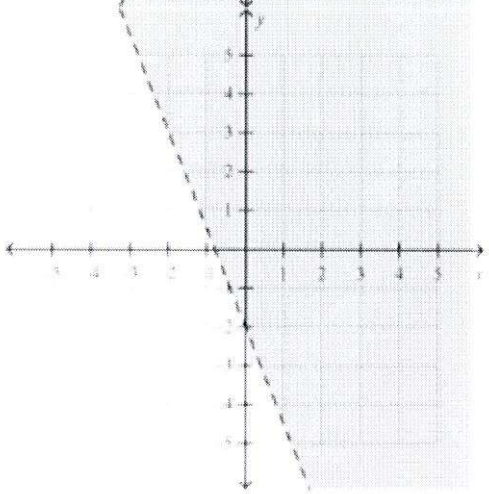
c.



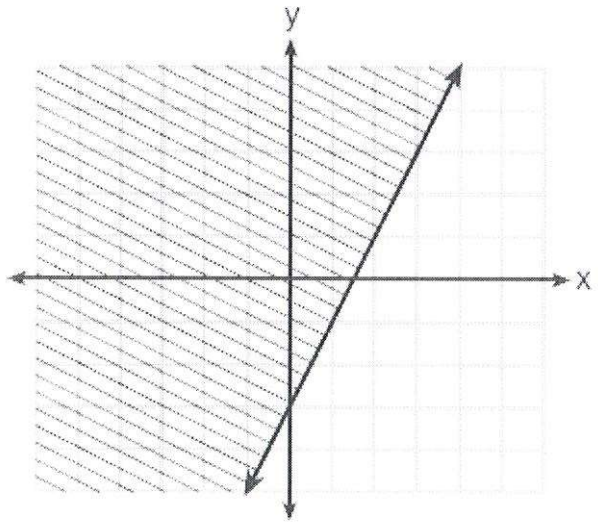
b.



d.



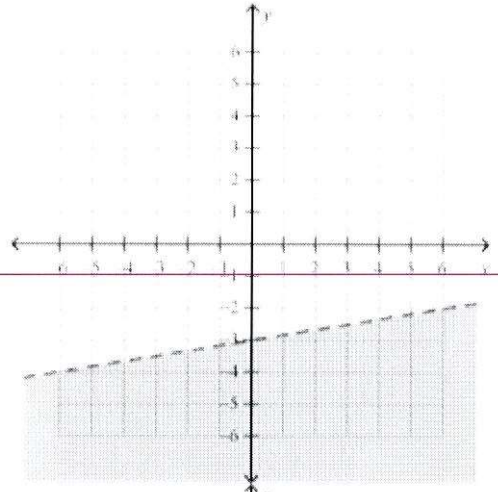
6) Which inequality is represented by the graph below? (A.REI.12)



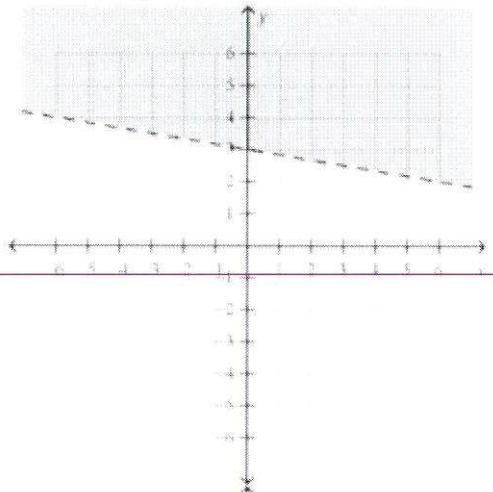
A. $y \leq 2x - 3$
B. $y \geq 2x - 3$
C. $y \leq -3x - 2$
D. $y \geq -3x - 2$

7) Which graph represents the solution to the inequality $y < \frac{1}{6}x - 3$? (A.REI.12)

a.



c.



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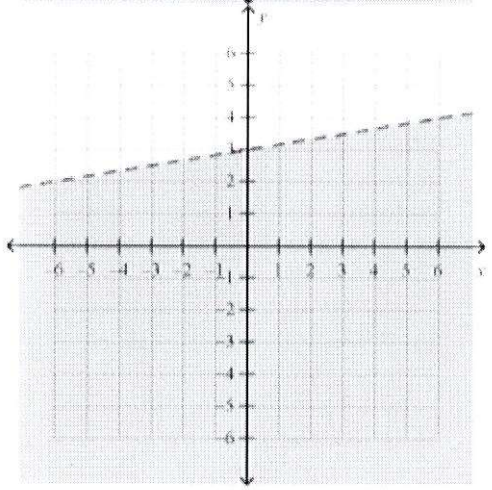

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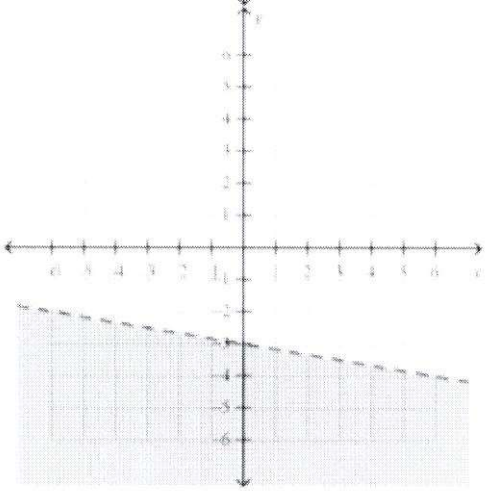
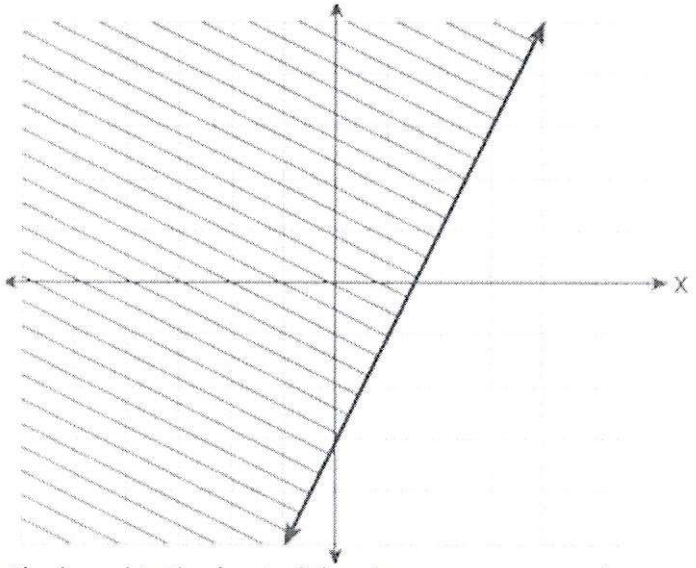


8) The graph of an inequality is shown below. (A.REI.12)



On the board in the front of the classroom, your teacher wrote the inequality, $x + 2y < 4$. Which point is part of the solution set?

A. (2, 1) B. (3, -2) C. (-6, 1) D. (5, 2)

9) What is the equation that represents a line that is perpendicular to the line y = 3x – 4 and passes through the point (-6, 6)? (G.GPE.5)

A. $y = 3x + 4$

C. $y = -\frac{1}{3}x + 4$

B. $y = \frac{1}{3}x + 8$

D. $y = -\frac{1}{3}x - 4$

10) What is an equation of the line that passes through the point (−2, 1) and is parallel to the line whose equation is $4x - 2y = 8$? (G.GPE.5)

A. $y = \frac{1}{2}x + 2$

C. $y = 2x + 5$

B. $y = \frac{1}{2}x - 2$

D. $y = 2x - 5$

11) Which is an equation of the line that passes through the point (-1, 2) and is parallel to the graph of 4x + 3y = 6? (G.GPE.5)

A. 4x + 3y = 2

C. 3x + 4y = 2

B. -3x + 4y = 2

D. 4x + 3y = -2

12) The lines whose equations are $2x + 3y = 4$ and $y = mx + 6$ will be perpendicular when m is:

(G.GPE.5)

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

C. $\frac{3}{2}$

B. $-\frac{2}{3}$

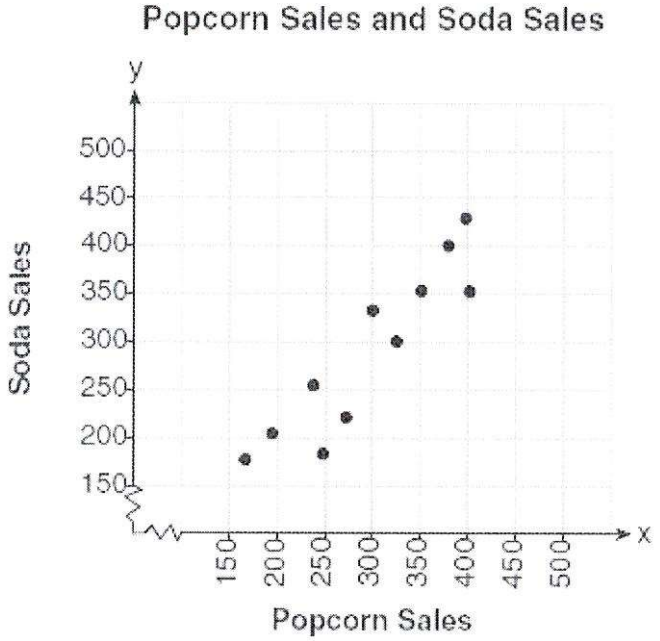
D. $\frac{2}{3}$

13) Bella recorded data and used her graphing calculator to find the equation for the line of best fit. She then used the correlation coefficient to determine the strength of the linear fit.

Which correlation coefficient represents the strongest linear relationship? (S.ID.8)

A. 0.9
B. 0.5
C. −0.3
D. −0.8

14) The scatterplot below compares the number of bags of popcorn and the number of sodas sold at each performance of the circus over one week. (S.ID.8)



Which conclusion can be drawn from the scatterplot?

A. There is a negative correlation between popcorn sales and soda sales.
B. There is a positive correlation between popcorn sales and soda sales.
C. There is no correlation between popcorn sales and soda sales.
D. Buying popcorn causes people to buy soda.

15) The table below shows 6 students' overall averages and their averages in their math class.

Overall Student Average	92	98	84	80	75	82
Math Class Average	91	95	85	85	75	78

If a linear model is applied to these data, which statement best describes the correlation coefficient?

(S.ID.8)

A. It is close to -1.
B. It is close to 1.
C. It is close to 0.
D. It is close to 0.5.

16) The following table shows the number of goals scored and the number of wins for some National Hockey League (NHL) teams for the 2009-2010 season. (S.ID.8)

Goals Scored	318	222	235	257	214	216	219	208	225	222
Wins	54	48	45	47	27	32	38	32	40	38

Which value represents the correlation coefficient for this data?

A. -6.54

B. 0.60

C. 0.20

D. 0.77