Basic Algebra 2nd Tri CECA Review KEY

Indicate the answer choice that best completes the statement or answers the questions.

1. Which of the following is in Slope Intercept Form?

a. $2x - y = 6$ b. $y - 3x = 7$

c. $y = -\frac{2}{3}x + 1$ d. $y + 1 = 2(x - 3)$

Determine whether the equation is a linear equation. If so, write the equation in standard form.

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

a. yes; $y - 4x = 3$ b. no

c. yes; $4x - y = 3$ d. yes; $4x + y = 3$

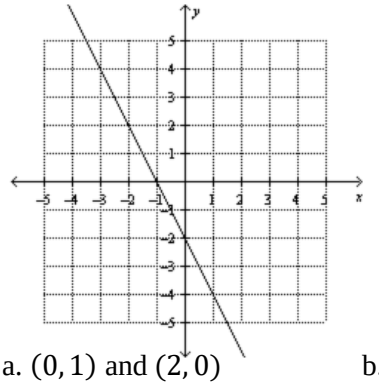
3. $y = 5x^2 + 2$

a. yes; $5x - y = 2$ b. yes; $y = 5x + 2$

c. yes; $y - 5x = 2$ d. no

Find the x- and y- intercepts of the graph of each linear function.

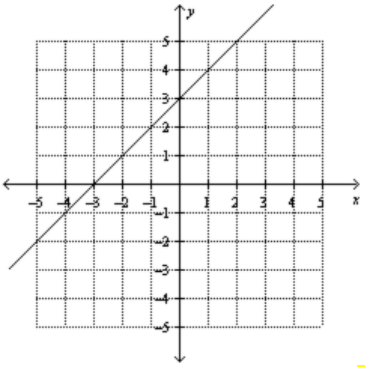
4.



a. $(0, 1)$ and $(2, 0)$ b. $(0, -1)$ and $(-2, 0)$

c. $(-1, 0)$ and $(0, -2)$ d. $(1, 0)$ and $(0, 2)$

5.



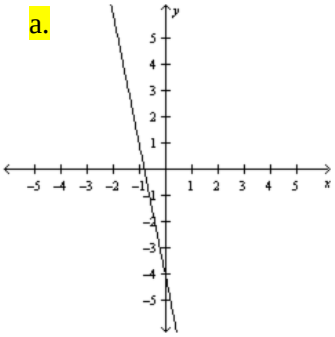
a. $(-3, 0)$ and $(3, 0)$ b. $(-3, 0)$ and $(0, 3)$

c. $(0, -3)$ and $(0, 3)$ d. $(3, 0)$ and $(0, -3)$

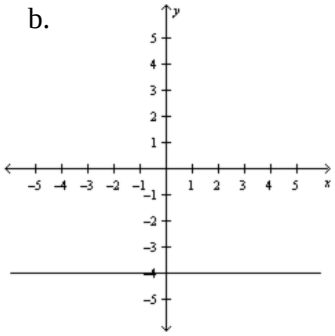
Graph the following equations using a table.

6. $y = -5x - 4$

a.



b.



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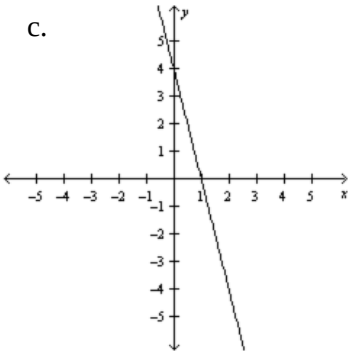
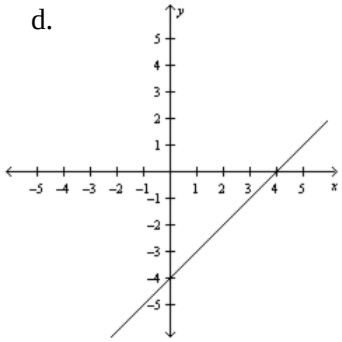
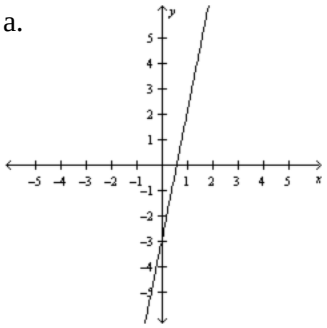


d.

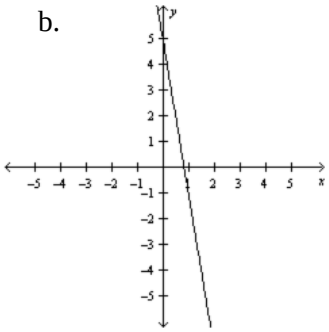


7. $3x + y = 5$

a.



b.



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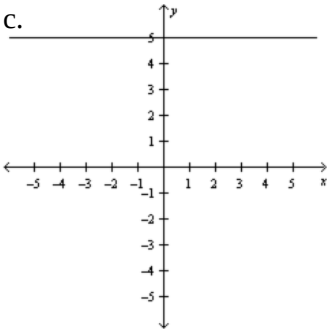
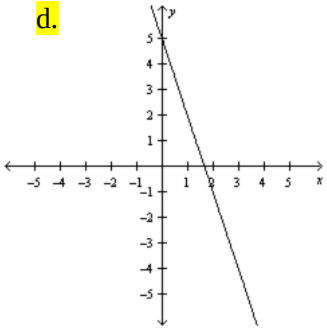


d.



Find the slope of the line that passes through the pair of points.

8. $(1, -5), (-2, 4)$

a. -3 b. $\frac{1}{3}$

c. -9 d. -1

Write an equation of the line with the given slope and y-intercept.

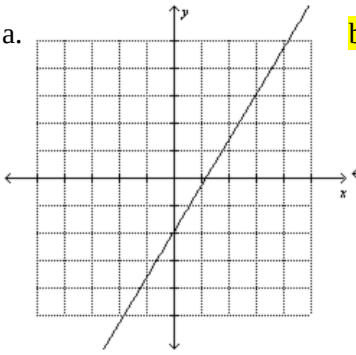
9. slope: -5, y-intercept: 3

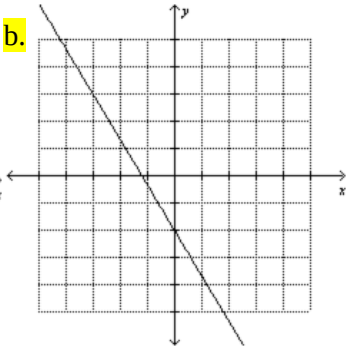
a. $y = 5x + 3$ b. $y = -5x + 3$

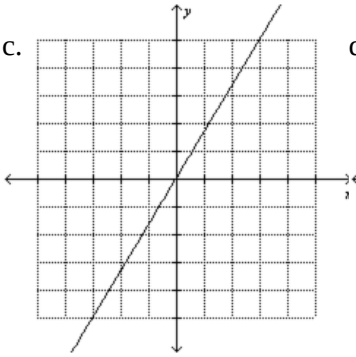
c. $y = 3x - 5$ d. $y = -5x - 3$

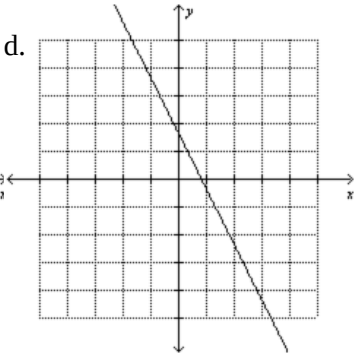
Graph the equation using slope and y-intercept.

10. Slope $= -\frac{5}{3}$, y-intercept $= -2$

a. 

b. 

c. 

d. 

A television repair shop charges $35 plus $20 per hour to fix your tv.

11. Write an equation for the total cost C of repairing a television for h hours.

a. $C = 35h + 20$ b. $h = 35 + 20C$

c. $C = 15 + 20h$ d. $C = 35 + 20h$

John is constructing a fence around his property. He already has 25 sections up and plans to add 8 sections each Saturday until it is complete. This can be modeled by the equation $y = 8x + 25$.

12. Find the total number of sections he will have standing after 15 Saturdays.

a. 105 sections b. 125 sections

c. 145 sections d. 383 sections

Determine whether the sequence is an arithmetic sequence. If it is, state the common difference.

13. $3.6, 1.3, -1.2, -3.9, \ldots$

a. no b. yes; -2.7

c. yes; -2.3 d. yes; -2.5

Find the next three terms of the arithmetic sequence.

14. $-16, -12, -8, -4, \ldots$

a. $0, 4, 8$ b. $-2, 2, 6$

c. $4, 6, 8$ d. $4, 8, 12$

Write the equation of the line in slope-intercept form that passes through the given point and slope.

15. $(-7, 0)$, $m = -2$

a. $y = -2x - 14$ b. $y = -2x - 13$

c. $y = 2x - 14$ d. $y = -2x + 14$

Write the equation of the line in slope-intercept form that passes through the pair of points.

16. $(-5, -1)(-4, 2)$

a. $y = 4x + 2$ b. $y = x + 4$

c. $y = 3x - 2$ d. $y = 3x + 14$

Write the point-slope form of an equation for a line that passes through the point with the given slope.

17. $(2, -3), m = -4$

a. $y - 2 = -4(x + 3)$ b. $y - 3 = -4(x + 2)$

c. $y + 3 = -4(x - 2)$ d. $y - 2 = -3(x + 4)$

Write the equation in standard form.

18. $y - 9 = -\frac{1}{2}(x + 4)$

a. $x + y = 7$ b. $x + 2y = 14$

c. $x + 2y = 10$ d. $x + y = -14$

Write the equation in slope-intercept form.

19. $y - 2 = -\frac{1}{3}(x - 9)$

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

b. $y = -\frac{1}{3}x + 5$

c. $y = \frac{1}{3}x + 6$

d. $y = -3x + 3$

*Which of the following slopes is **parallel** to the given slope?*

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

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

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

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

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

*Write the slope-intercept form of an equation of the line that passes through the given point and is **parallel** to the equation.*

21. $(4, -3), y = -\frac{3}{2}x - 2$

a. $y = \frac{2}{3}x + 2$

b. $y = \frac{3}{2}x - 18$

c. $y = -\frac{3}{2}x + 3$

d. $y = -\frac{3}{2}x - 9$

*Which of the following slopes is **perpendicular** to the given slope?*

22. -5

a. -5

b. $\frac{1}{5}$

c. 5

d. $-\frac{1}{5}$

*Write the slope-intercept form of an equation of the line that passes through the given point and is **perpendicular** to the equation.*

23. $(6, -2), y = -\frac{2}{3}x - 8$

a. $y = \frac{3}{2}x - 11$

b. $y = -\frac{2}{3}x + 2$

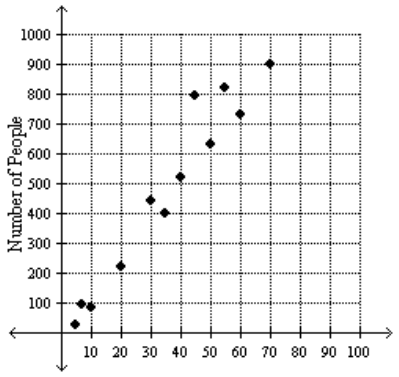
c. $y = \frac{3}{2}x + 7$

d. $y = \frac{3}{2}x + 9$

Determine whether each graph shows a positive correlation, a negative correlation, or no correlation. If there is a positive or negative correlation, describe its meaning in the situation.

24.

People Entering Amusement Park



a. positive; as time passes, # of people increases

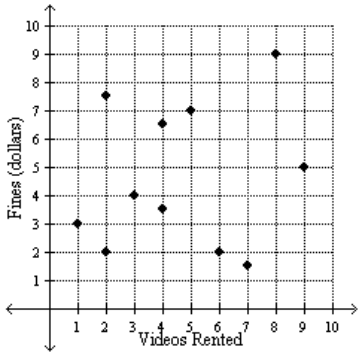
b. positive; as time passes, # of people decreases

c. negative; as time passes, # of people decreases

d. no correlation

25.

Video Rental Overdue Fines



a. negative; as videos rented increase, the fine decreases

b. positive; as videos rented increase, the fine increases

c. positive; as videos rented increase, the fine decreases

d. no correlation

*Determine whether the situation **correlation but not causation**, **causation** or **neither**.*

26. A study determines there is a positive correlation between the amount of rain and the percent of pedestrians carrying umbrellas.

a. Correlation but not causation

b. Causation

c. Neither a or b

Find the inverse of the function.

27. $f(x) = 3x - 2$

a. $f^{-1}(x) = \frac{x+2}{3}$

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

c. $f^{-1}(x) = \frac{x-2}{3}$

d. $f^{-1}(x) = 3x + 2$

Find the inverse of the relation.

28.

x	–8	13	11	–20
y	–17	–19	4	15

a. {(–17, –8), (–19, 13), (4, 11), (–20, 15)}

b. {(–17, –8), (–19, 13), (4, 11), (15, –20)}

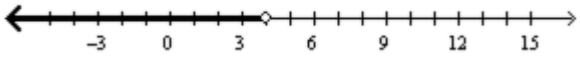
c. {(–8, –17), (13, –19), (11, 4), (–20, 15)}

d. {(–17, –8), (13, –19), (11, 4), (15, –20)}

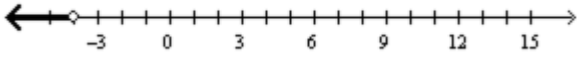
Solve the inequality. Graph the solution on a number line.

29. $k - 2 < -2$

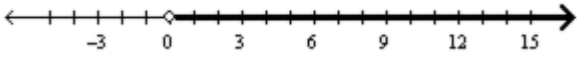
a. $k < 4$



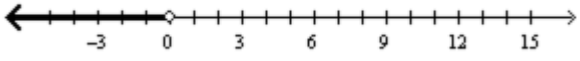
b. $k < -4$



c. $k > 0$



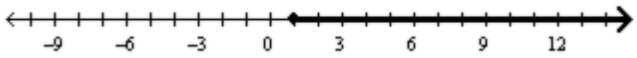
d. $k < 0$



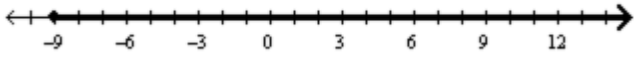
Solve the inequality. Graph the solution on a number line.

30. $-4 \geq -5 + p$

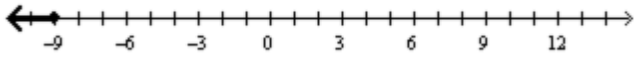
a. $p \geq 1$



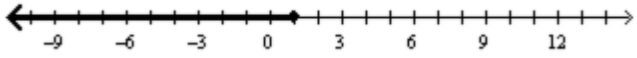
b. $p \geq -9$



c. $p \leq -9$



d. $p \leq 1$



Solve each inequality.

31. $-\frac{2}{3}b > -6$

a. $b > -4$

b. $b > 6$

c. $b < 9$

d. $b < 4$

32. $7x - 4 < 5 + 7x - 4$

a. $x \geq -23$

b. All real numbers

c. $x \leq 5$

d. $x \geq -34$

33. $n - 6.7 \leq 1.1 + 2.3n$

a. $n \geq -6$

b. $n \geq -24.14$

c. $n \geq -12.8$

d. $n \leq -36.9$

34. $-8(x + 1) \leq -2(2x - 6)$

a. $x \geq 1$

b. $x \geq -5$

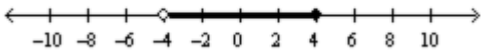
c. $x \leq -5$

d. $\emptyset$ *(the empty set)*

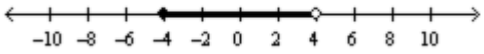
Solve each compound inequality and graph the solution set.

35. $2k + 9 > 1$ and $3k - 9 \leq 3$

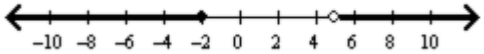
a. $-4 < k \leq 4$



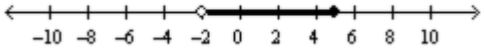
b. $-4 < k \leq 4$



c. $-2 < k \leq 5$

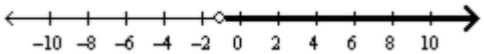


d. $-2 < k \leq 5$

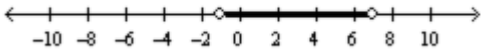


36. $2g - 16 > -2$ or $g + 3 > 2$

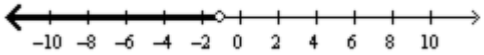
a. $g > -1$



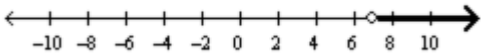
b. $-1 < g < 7$



c. $g < -1$



d. $g > 7$



Solve the inequality.

37. $|d - 1| < 6$

a. $d > -5$ or $d < 5$

b. $-5 < d < 7$

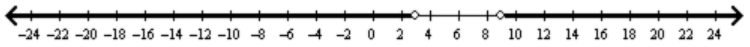
c. $5 > d > 7$

d. $d > 7$ or $d < -5$

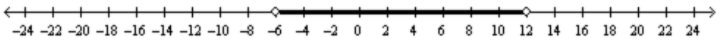
Solve the given inequality. Then graph the solution set.

38. $|p - 3| > 9$

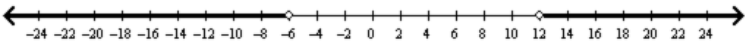
a. The solution set is $\{p \mid p > 9 \text{ or } p < 3\}$.



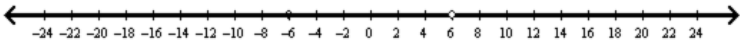
b. The solution set is $\{p \mid -6 < p < 12\}$.



c. The solution set is $\{p \mid p > 12 \text{ or } p < -6\}$.



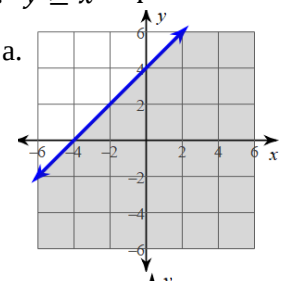
d. The solution set is $\{p \mid p > -6 \text{ or } p < 6\}$.



Graph the inequality.

39. $y \geq x - 4$

a.



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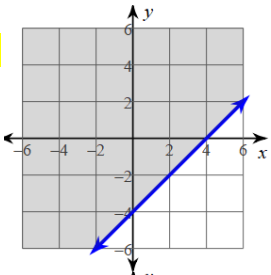
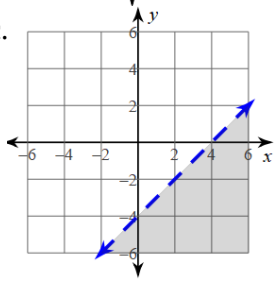
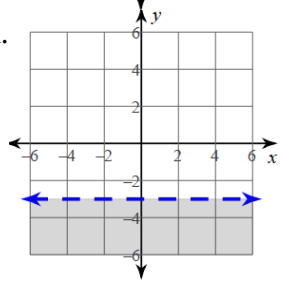


c.

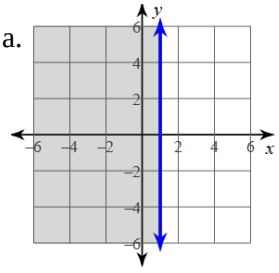


d.

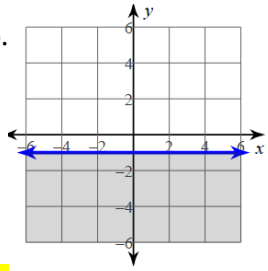


40. $3x - 4 \geq -1$

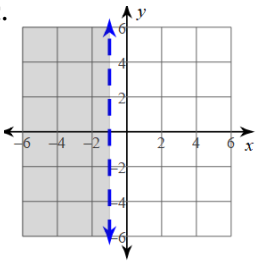
a.



b.



c.



d.