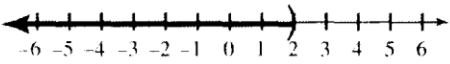
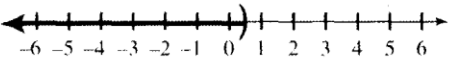
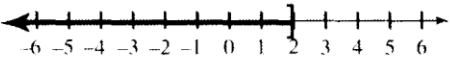
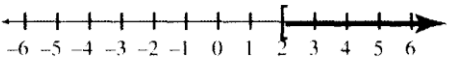
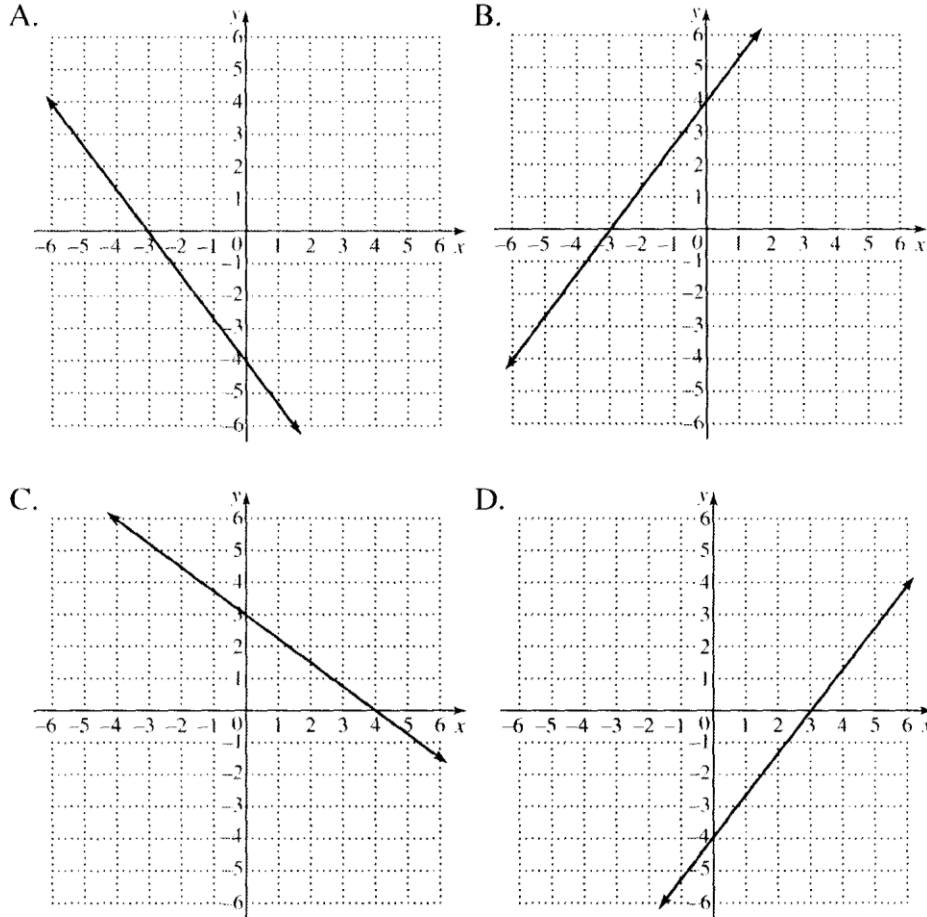


1. Solve: $3 < \frac{1}{3}x + 4 \leq 5$.
- A. $2 < x \leq 4$
 B. $-3 < x \leq 3$
 C. $-1 < x \leq 1$
 D. $4 < x \leq 10$
2. Which of the following points is a solution of the equation $-3x - 5y = 2$?
- A. $\left(\frac{2}{3}, 1\right)$ B. $\left(1, -\frac{3}{5}\right)$ C. $\left(\frac{1}{2}, \frac{1}{6}\right)$ D. $\left(-\frac{1}{2}, -\frac{1}{10}\right)$
3. Given $P(-1, -2)$, $Q(1, 3)$, $R(5, 0)$, $S(10, -2)$, which of the following is true?
- A. \overline{PQ} and \overline{RS} are parallel.
 B. \overline{PQ} and \overline{RS} are perpendicular.
 C. \overline{PQ} and \overline{RS} are neither parallel nor perpendicular.
 D. Nothing can be determined from the given information.
4. Which is the graph of the inequality $8x - 2 \leq 2(x + 5)$?
- A. 
- B. 
- C. 
- D. 
5. What is the equation of the vertical line through the point $(2, -5)$?
- A. $x = 2$ B. $x = -5$ C. $y = 2$ D. $y = -5$
6. Solve: $|6 - x| \geq 5$.
- A. $[-11, 1]$ B. $[1, 11]$ C. $(-\infty, 1] \cup [11, \infty)$ D. $[1, \infty)$

7. What is the graph of the equation $-12x + 9y = 36$?



8. A print shop charges \$29.00 plus \$0.49 per copy to print brochures. How many can be printed for \$80.94?

- A. 106 B. 116 C. 19 D. 49

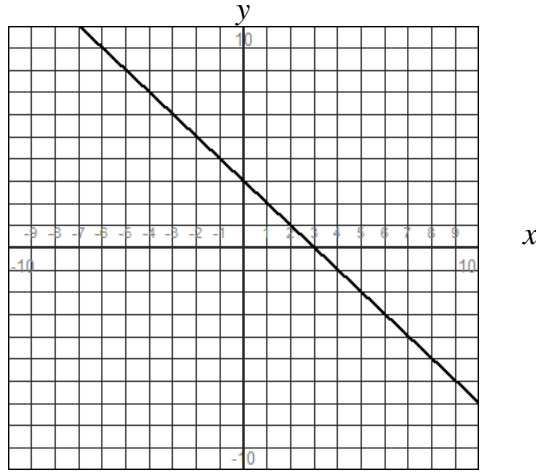
9. Solve: $\frac{2x}{5} - \frac{x}{3} = 4$.

- A. 60 B. -60 C. 120 D. -120

10. Assume that the model $C = 12x + 170$ represents the cost, in hundreds of dollars, to produce x items. How many items can be produced while keeping costs between \$305,000 and \$449,000?

- A. $360 < x < 480$ B. $390 < x < 520$ C. $240 < x < 360$ D. $260 < x < 390$

11. Calculate the slope of the line. You may assume that each tick mark represents one unit.



- A. 1 B. -1 C. 7 D. -7

12. The table below represents the population of a city over time. What was the population of the city in 1896?

Year	Population
1840	16,000
1860	19,000

- A. 19,002 B. 21,401 C. 22,000 D. 24,400

13. A local gym offers two plans for the use of its swimming pool. Plan A costs \$35.00 per month for unlimited use of the pool. Plan B costs \$15.00 per month, plus an additional \$2.50 per hour for the use of the pool. For what number of hours use per month will plan B be better?

- A. Plan B is better if the pool is used more than 8 hours per month.
 B. Plan B is better if the pool is used fewer than 8 hours per month.
 C. Plan B is better if the pool is used more than 20 hours per month.
 D. Plan B is better if the pool is used fewer than 20 hours per month.

14. Write the equation of the line that passes through $(-8, -5)$ and $(-6, -5)$.

- A. $-6x - 8y = 0$
 B. $-8x - 6y = 0$
 C. $x = -8$
 D. $y = -5$

15. Solve: $|x + 7| - 3 = 13$.

- A. $x = -23, x = 9$
- B. $x = -9, x = 9$
- C. $x = -3, x = 9$
- D. $x = 17, x = 9$

16. Write the equation of a line passing through the point $(3, 4)$ and parallel to $y = -\frac{1}{6}x + 7$.

- A. $y = -\frac{1}{6}x - \frac{9}{2}$
- B. $y = -\frac{1}{6}x + \frac{9}{2}$
- C. $y = \frac{1}{6}x - \frac{9}{2}$
- D. $y = -6x - 27$

17. If $f(x) = 3x^2 + 7x$, find $f(2a)$.

- A. $12a^2 + 14a$
- B. $6a^2 + 14a$
- C. $12a^2 + 7a$
- D. $26a$

18. An investment is worth \$2529 in 1991. By 1994 it had grown to \$4044. Let y be the value of the investment in year x , where $x = 0$ represents 1991. Which equation represents the value of the investment in year x ?

- A. $y = 505x + 2529$
- B. $y = \frac{1}{505}x + 2529$
- C. $y = -505x + 5559$
- D. $y = -505x + 2529$

19. Let $y = 1.1x + 23$ represent the percentage of people who were graduated from college x years after 1998. Find and interpret the slope.

- A. $m=1.1$. The percentage of people graduating from college decreased at a rate of 1.1% per year after 1998.
- B. $m=1.1$. The percentage of people graduating from college increased at a rate of 1.1% per year after 1998.
- C. $m=23$. The percentage of people graduating from college decreased at a rate of 23% per year after 1998.
- D. $m=23$. The percentage of people graduating from college increased at a rate of 23% per year after 1998.

20. Solve: $5(4x+3) - 4x < 4(4+4x) - 6$.

- A. $(-\infty, \infty)$ B. $(-\infty, 3)$ C. $(3, \infty)$ D. no solution

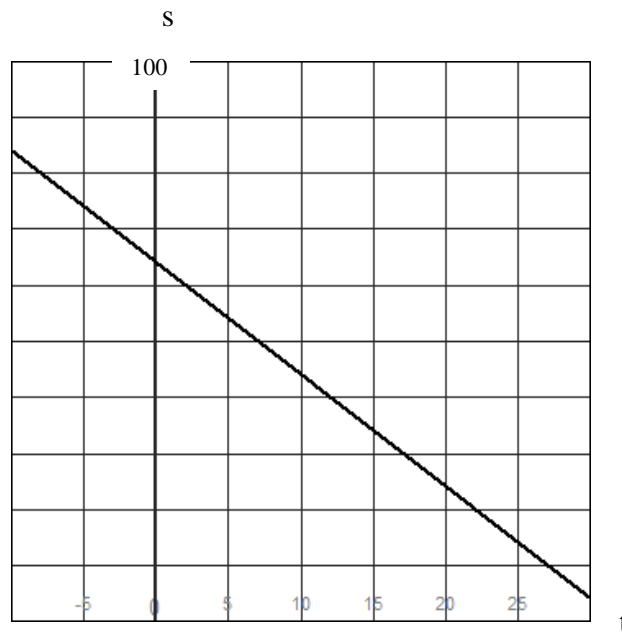
21. What are the domain and range of the data in the table at the right?

x	2	4	6	8	10
y	45	30	20	10	5

- A. Domain $\{2,4,6,8,10\}$ Range $\{5,10,20,30,45\}$
 B. Domain $\{5,10,20,30,45\}$ Range $\{2,4,6,8,10\}$
 C. Domain $\{2,4,6\}$ Range $\{20,30,45\}$
 D. The data do not represent a function so there is no domain and range.

22. What is the value of x when $3x + 5y = 9$ crosses the x -axis?

- A. $x = -3$ B. $x = 3$ C. $x = -\frac{9}{5}$ D. $x = -\frac{9}{5}$

23. The following graph represents the amount of snow, s , in a ski resort t days after December 31st. Approximately how much snow was at the ski resort on January 24th? (Note the scales on the axes.)

- A. 16 inches B. 21 inches C. 24 inches D. 40 inches

24. If $f(x) = -|x-5|$, find $f(7)$.

- A. 5 B. 7 C. 2 D. -2

25. What is the equation of a line with an x -intercept at $x = 4$ and a y -intercept at $y = -3$?

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

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

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

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

26. Solve: $3(x+2) - (3x+6) = 0$.

A. all real numbers

B. no solution

C. 0

D. 2

27. Is the following relation a function: $\{(-8,2), (-8, 8), (2,2), (5,5), (9, -3)\}$?

A. This is not a function.

B. This is a function.

28. Solve: $6x - 4 < 2x$ or $-3x \leq -9$.

A. $[1, 3]$

B. $(1, 3)$

C. $(-\infty, 1) \cup [3, \infty)$

D. \emptyset

29. Solve: $-24 \leq 3z - 3 \leq 9$.

A. $-7 < z < -4$

B. $-7 \leq z \leq 4$

C. $-9 \leq z \leq -4$

D. $-7 \leq z \leq 2$

30. Solve: $P = 2l + 2w$ for w .

A. $w = P - 2l - 2$.

C. $w = \frac{P}{2l + 2}$

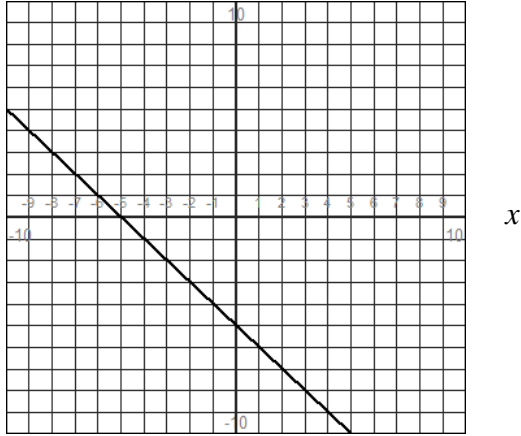
B. $w = \frac{P - 2l}{2}$

D. $w = \frac{P}{2} - 2l$

31. Which is the graph of the line with a slope of 4 and a y-intercept at -5 ? You may assume that each tick mark represents one unit.

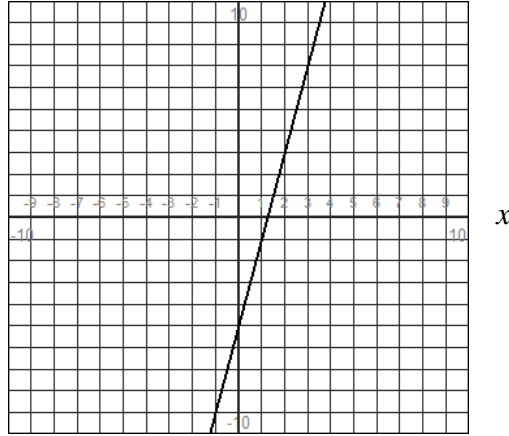
A.

y



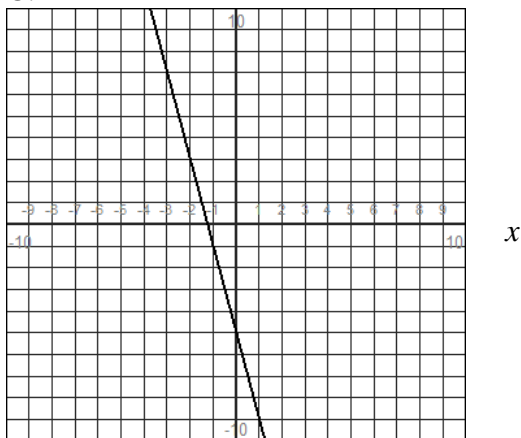
B.

y



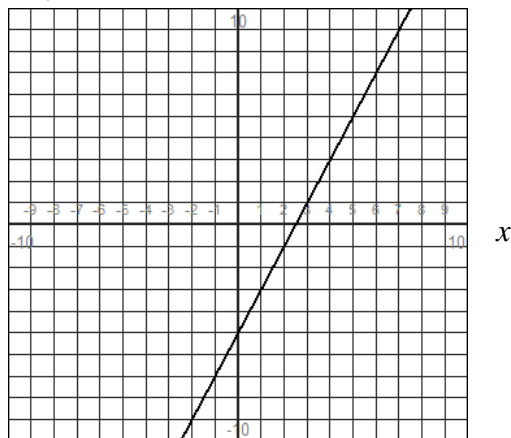
C.

y



D.

y



32. A baseball team has played 141 games this season. The team has 37 fewer wins than losses. How many wins does the team have?

A. 37

B. 52

C. 89

D. 141

33. Which of the following lines has a slope of zero?

A. $x = 5$

B. $y = 5$

C. $5x = y$

D. $-5x = y$

34. Solve: $|2x + 6| = 9$

A. \emptyset

B. $x = -\frac{3}{2}, \frac{15}{2}$

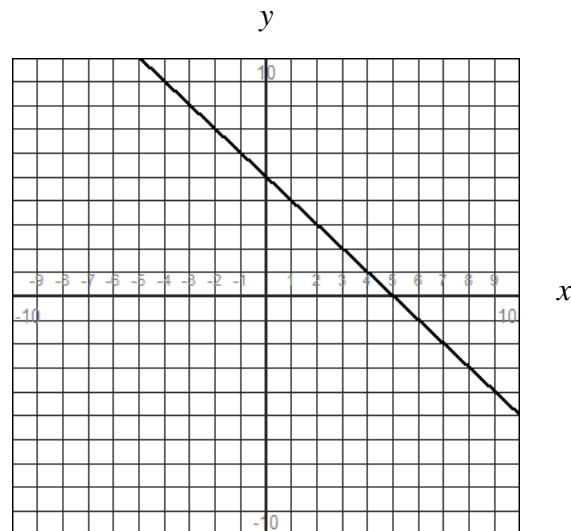
C. $x = \frac{1}{2}, -\frac{5}{2}$

D. $x = \frac{3}{2}, -\frac{15}{2}$

35. What is true of two parallel lines?

- A. The product of the slopes of the two lines must equal -1 .
- B. The two lines have the same y -intercept.
- C. The two lines always have the same slope.
- D. The two lines must go through the origin.

36. What is true of the graph below? You may assume that each tick mark represents one unit.

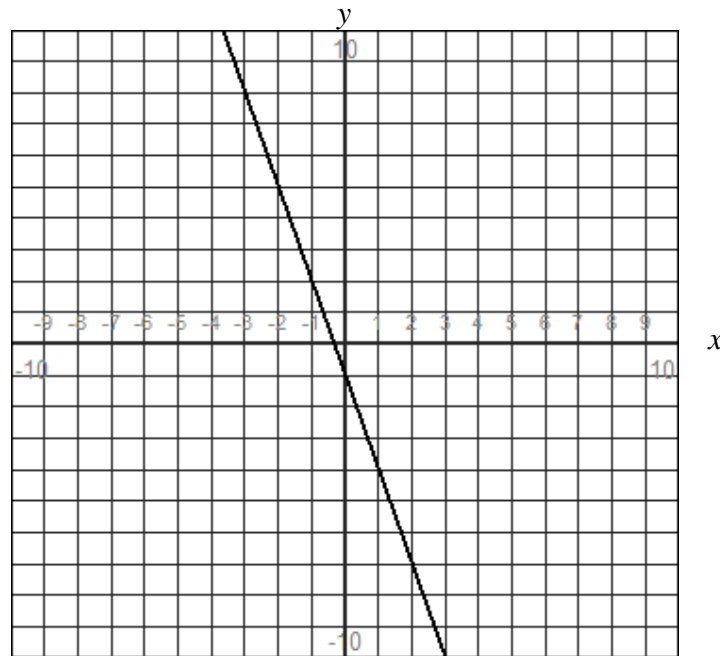


- A. $f(0) = 5$.
- B. The y -intercept is at $(5, 0)$.
- C. The slope of the line is positive.
- D. The domain is $(-10, 10)$.

37. What is the y -intercept of $-2x + 3y = 12$?

- A. $(4, 0)$
- B. $(0, 4)$
- C. $(-6, 0)$
- D. $(0, -6)$

38. What is NOT true about the graph below? You may assume that each tick mark represents one unit.



- A. The slope of the line is negative.
- B. The y -intercept of the graph is $(0, -1)$.
- C. The point $(-2, 5)$ is on the graph.
- D. The x -intercept of the graph is $(-1, 0)$.

39. Solve $I = \frac{nE}{nr + R}$ for n .

- A. $n = IR(Ir - E)$
- B. $n = \frac{IR}{E - Ir}$
- C. $n = \frac{IR}{Ir + E}$
- D. $n = \frac{R}{E - Ir}$

40. Find the domain of $f(x) = \sqrt{x + 3}$.

- (A) $[-3, \infty)$
- (B) $(-\infty, 3]$
- (C) $[0, \infty)$
- (D) $(-\infty, \infty)$

KEY Review for Exam 1.

- | | |
|-------|-------|
| 1. B | 31.B |
| 2. D | 32. B |
| 3. B | 33. B |
| 4. C | 34. D |
| 5. A | 35. C |
| 6. C | 36. A |
| 7. B | 37. B |
| 8. A | 38. D |
| 9. A | 39. B |
| 10. C | 40. A |
| 11. B | |
| 12. D | |
| 13. B | |
| 14. D | |
| 15. A | |
| 16. B | |
| 17. A | |
| 18. A | |
| 19. B | |
| 20. D | |
| 21. A | |
| 22. B | |
| 23. A | |
| 24. D | |
| 25. B | |
| 26. A | |
| 27. A | |
| 28. C | |
| 29. B | |
| 30. B | |