

Math 1 Semester 1 Practice Exam

Chapter 1

1. Solve the following equation for x:

$$2(3x - 1) = 16$$

- A. $x = 12$ B. $x = 3$
C. $x = \frac{17}{6}$ D. *No Solution*

2. How many solutions does the following equation have?

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

- A. 2 solutions
B. 1 solution
C. No Solution
D. Infinite number of solutions (ARN)

3. What is the solution for the following equation?

$$3(5x - 1) = 3(x + 11)$$

- A. $x = 1$ B. $x = 3$
C. $x = \frac{30}{18}$ D. *No solution*

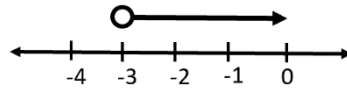
4. Solve for x: $3(x + 4) = 5$

- A. $x = \frac{-7}{3}$ B. $x = \frac{1}{3}$
C. $x = \frac{-1}{3}$ D. $x = 11$

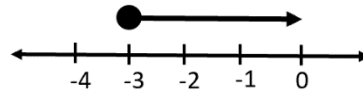
5. Which of the following graphs is a representation of the solution of

$$-4 < 5 + 3n$$

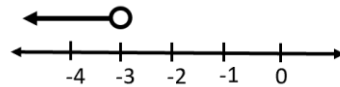
A.



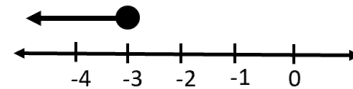
B.



C.



D.



6. Solve for x: $|x + 3| = 13$

- A. $x = 10$ B. $x = 10$ or -10
C. $x = 10$ or -16 D. $x = 10$ or 16

7. Solve for x:

$$mgx = k$$

- A. $x = k - mg$ B. $x = \frac{k}{mg}$
C. $x = \frac{mg}{k}$ D. $x = k + mg$

Math 1 Semester 1 Practice Exam

8. Solve for x:

$$3(5x - 2) = 9x + 6 - 2x$$

- A. $x = -2$ B. $x = \frac{1}{2}$
C. $x = 2$ D. $x = \frac{3}{2}$

Chapter 2

9. Find the equation in slope intercept form for the line through the points (4, 2) and (6, 8)

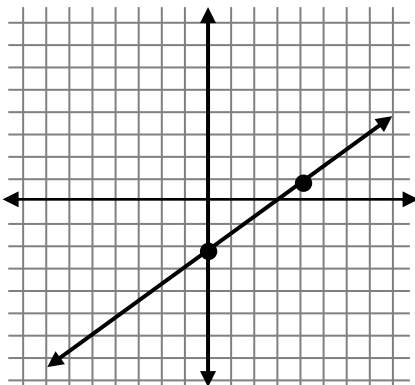
- A. $y = 3x + 2$ B. $y = 3x + 8$
C. $y = 3x + 4$ D. $y = 3x - 10$

10. Find the slope of the line that is parallel to

$$y = 5x + 4$$

- A. $m = 4$ B. $m = 5x$
C. $m = 5$ D. $m = \frac{-1}{5}$

11. Find the equation of the line in slope-intercept form:

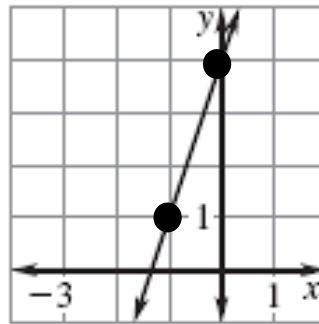


- A. $y = -\frac{3}{4}x - 2$ B. $y = -\frac{4}{3}x - 2$
C. $y = \frac{3}{4}x - 2$ D. $y = 2x + 2$

12. Rewrite the equation $3x = 5y - 2$ in standard form.

- A. $3x + 5y = -2$ B. $3x - 5y = -2$
C. $y = -\frac{3}{5}x - \frac{2}{5}$ D. $y = 5$

13. What are the slope and y-intercept of the graph?



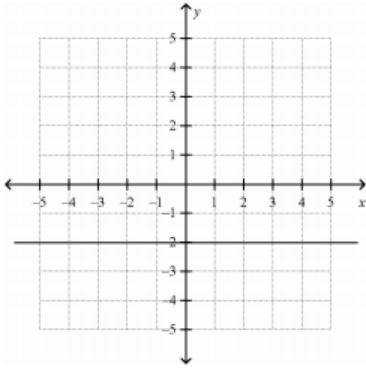
- A. $m = -3, b = 3$ B. $m = 3, b = 4$
C. $m = 3, b = -1.5$ D. $m = -3, b = 4$

14. Mr. Martinez is buying equipment for his school's computer lab. He has a budget of \$7500. New desktop computers cost \$600 each and new tables cost \$500 each. Which equation represents how much equipment Mr. Martinez can buy with his budget?

- A. $7500x + 600y = 500$
B. $7500 + 600x = 500y$
C. $600x + 500y = 7500$
D. $600x = 500y + 7500$

Math 1 Semester 1 Practice Exam

15. Find the equation of the graph shown below



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

16. Given the points $(-2, -4)$ and $(1, -1)$ find the slope.

- A. 1 B. $\frac{5}{3}$
C. $-\frac{5}{3}$ D. 3

Chapter 3

17. What is the explicit formula for the arithmetic sequence:

$$23, 18, 13, 8, \dots$$

- A. $a_n = 23 + (n - 1)(-5)$
B. $a_n = -5 + (n - 1)(23)$
C. $a_n = 23 - (n - 1)(-5)$
D. $a_n = 23 + (n - 1)(18)$

18. Find a linear function for the values shown in the table:

x	1	2	3	4
$f(x)$	5	1	-3	-7

- A. $f(x) = 4x + 9$ B. $f(x) = 4x + 5$
C. $f(x) = -4x + 9$ D. $f(x) = -4x + 5$

19. Given $f(x) = -3(x - 1) + 5$; evaluate $f(-2)$

- A. 14 B. -7
C. 16 D. $6x + 8$

20. Your friend gives you their collection of 22 comic books. Each year you get 2 more for your birthday. How many comic books will you have after thirteen more birthdays?

- A. 26 B. 48
C. 4 D. 37

21. Given the arithmetic sequence

$$15, 11, 7, 3, \dots \quad \text{Find } a_{21}$$

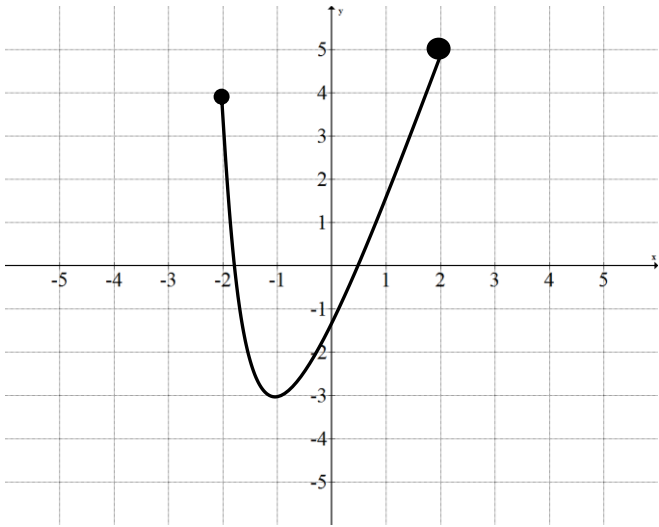
- A. -69 B. 95
C. 1200 D. -65

22. Which sequence is an arithmetic sequence?

- A. 2, 4, 8, 16, 32, ... B. 8, 10, 13, 17, 22, ...
C. 3, 7, 11, 7, 3, ... D. 4, 7, 10, 13, 16, ...

Math 1 Semester 1 Practice Exam

Use the following graph for # 23-24.



23. What is the **Domain** of the function?

- | | |
|------------------------|-------------------|
| A. $(-\infty, \infty)$ | B. $[-2, \infty)$ |
| C. $[-3, 5]$ | D. $[-2, 2]$ |

24. What is the **Range** of the function?

- | | |
|------------------------|-------------------|
| A. $(-\infty, \infty)$ | B. $[-2, \infty)$ |
| C. $[-3, 5]$ | D. $[-2, 2]$ |

Chapter 4:

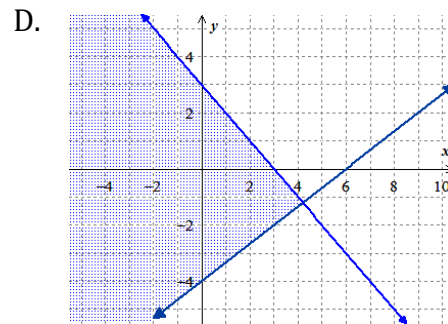
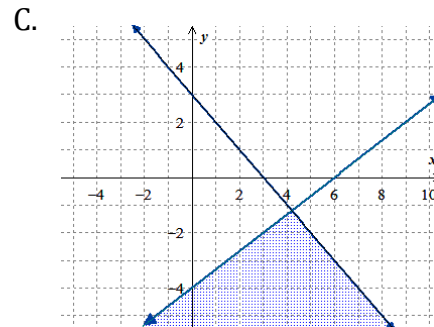
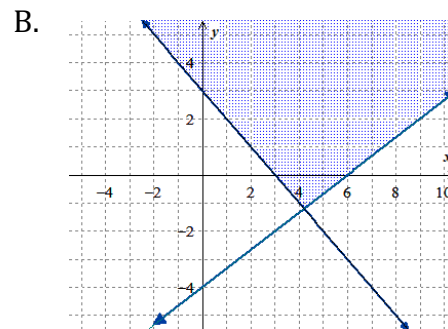
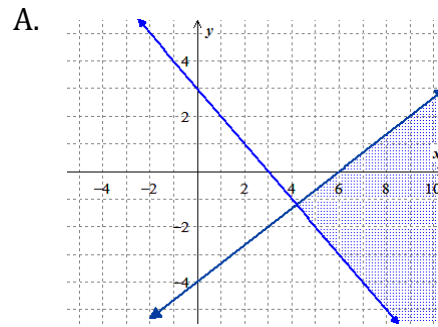
25. Which of the following is the solution to the following system of equations?

$$\begin{aligned} y &= 2x - 4 \\ y &= x + 1 \end{aligned}$$

- | | |
|--------------|--------------|
| A. $(4, 4)$ | B. $(5, 6)$ |
| C. $(-2, 1)$ | D. $(0, -4)$ |

26. Which of the following graphs best represents the solution to the following system of linear inequalities?

$$\begin{aligned} 2x - 3y &\leq 12 \\ y &\geq -x + 3 \end{aligned}$$



Math 1 Semester 1 Practice Exam

27. When solving the system of equations using the graphing method, what does the graph look like?

$$y = x$$

$$y = -\frac{2}{3}x + 5$$

- A. 2 lines intersecting at (3,3)
- B. 2 lines intersecting at (-3,-3)
- C. 2 lines intersecting at (2,2)
- D. 2 lines intersecting at (-2,-2)

28. If elimination is used to solve this system of equations, what is the result of the first step?

$$x + y = 6$$

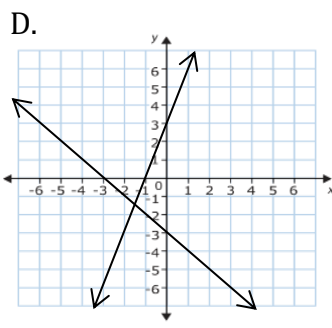
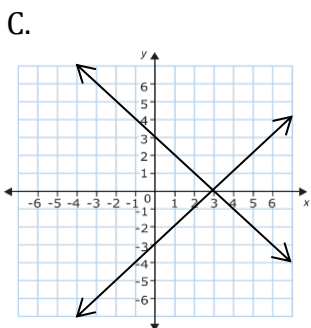
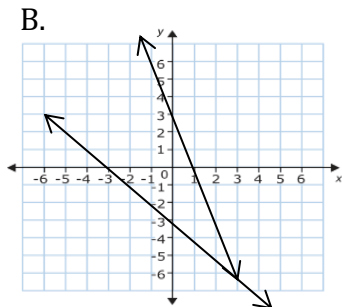
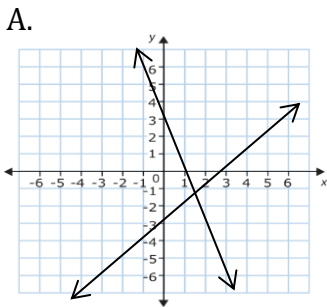
$$x - y = 2$$

- A. $2y = 8$
- B. $2x = 8$
- C. $x + y = 8$
- D. $x - y = 8$

29. Which graph represents the following system of equations:

$$y = 3x + 3$$

$$y = -x - 3$$



30. Solve this system of equations:

$$-2x + 5y = 6$$

$$x = 3y - 8$$

- A. (-10, -38)
- B. (22, 10)
- C. (4, 2)
- D. (4, -2)

31. Solve this system of equations:

$$3x + 15y = -39$$

$$5x - 5y = 25$$

- A. (2, -3)
- B. (0, -5)
- C. (5, 0)
- D. No Solution

32. Four tomatoes and two onions cost \$4.50.
Three tomatoes and four onions cost \$6.50.
What is the cost of one onion?

- A. \$0.50
- B. \$1.25
- C. \$1.00
- D. \$0.75