

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

**FINAL EXAM REVIEW: UNIT 1 and 2**

1. What number does not have a reciprocal?

8. Solve:  $5(3 - x) = 1 - 3(6 + 4x)$

2. Divide:  $\left(\frac{-3}{4}\right) \div \left(\frac{-4}{9}\right)$

9. Solve for x:  $-3(5x - 2) = 4(-x - 7) + 1$

3. Evaluate  $4a^2 - 3a - 11$ , when  $a = 1$

4. Simplify:  $(5 - 2)^2 + 3(-4) - (-1)$

10. Solve for x:  $\frac{2}{3}x = -6$

5. What is the opposite of  $\frac{1}{4}$ ?

11. Solve for x:  $4x - (6x + 4) = 8$

6. Solve:  $3x + 3(x - 5) = 12x$

7. Solve:  $4(2 - 5x) = 3 - (4 - x)$

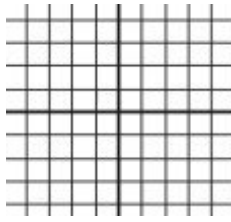
12. Solve for x:  $-4x + 5 = 17$

Name \_\_\_\_\_  
**FINAL EXAM REVIEW: UNIT 3 and 4**

Date \_\_\_\_\_

Period \_\_\_\_\_

1. What is the slope of the line?



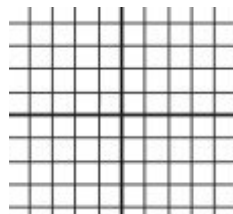
2. What is the slope of the line  $6x + 3y = 9$ ?

3. Find the slope of the line that passes through the points  $(-3, 2)$  and  $(-7, 5)$

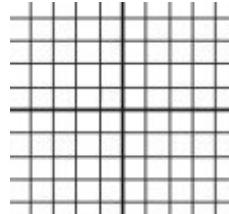
4. What are the coordinates of the x-intercept of the line  $4x + 8y = 12$  ?

5. What is the y-intercept of the line  $2x - 6y = 36$ ?

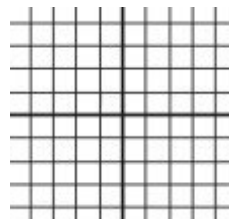
6. Graph  $y = 3x - 7$



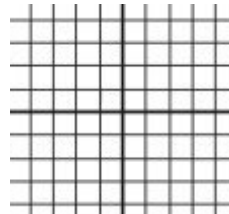
7. Graph  $2x + y = -3$



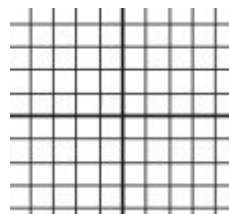
8. Graph  $y = -\frac{2}{3}x + 7$



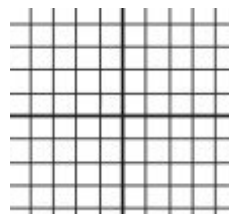
9. Graph the inequality:  $2x + y > 8$



10. Graph  $4x - 9y < 27$



11. Graph  $x \geq -3$



12. Write an equation that represents a line that is parallel to:  $y = \frac{1}{4}x - 7$

13. Write an equation of a line that is perpendicular to  $y = \frac{2}{5}x + 1$

14. The equation of line  $l$  is  $6x + 5y = 3$ , and the equation of line  $q$  is  $5x - 6y = 0$ . What can you say about the relationship between the lines?

15. Write the equation of the line that has a slope of  $-5$  and a  $y$ -intercept of  $-7$ .

16. What is the equation of the line that has a slope of  $3$  and passes through the point  $(3, -10)$

17. Write the equation of the line that has a slope of  $\frac{1}{3}$  and passes through the point  $(-9, 2)$

18. Write the equation of the line that passes through the points  $(-1, 2)$  and  $(4, 12)$

19. Does the point  $(2, 5)$  lie on the line defined by  $2x + 3y = 2$ ?

20. The data in the table show the cost of renting a bicycle by the hour, including a deposit.

Hours (h)	Cost in dollars (c)
2	10
5	30
8	60

If hours,  $h$ , were graphed on the horizontal axis and cost,  $c$ , were graphed on the vertical axis, what would be the equation of the line that fits the data.

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**FINAL EXAM REVIEW: UNIT 5**

1. Solve the system of equations:

$$\begin{cases} y = -4x - 3 \\ 5x + 3y = 5 \end{cases}$$

6. Solve the system for x only

$$\begin{cases} y = x - 3 \\ 3x + y = 5 \end{cases}$$

2. Solve the system of equations:

$$\begin{cases} x + 4y = -16 \\ x + 5y = -20 \end{cases}$$

7. Solve the system  $\begin{cases} 4x + 4y = 12 \\ 3x + 6y = 6 \end{cases}$ 

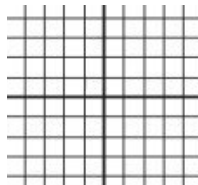
3. Solve the following system

$$\begin{cases} 2x + y = 25 \\ -2x + 3y = 3 \end{cases}$$

8. Solve the system  $\begin{cases} 6x - 4y = -20 \\ 5x + 4y = -2 \end{cases}$ 

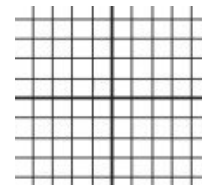
4. Solve the system by graphing

$$\begin{cases} x + y = 2 \\ 5x - y = 4 \end{cases}$$



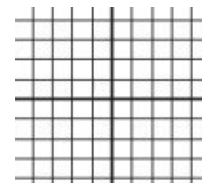
9. Graph the following system

$$\begin{cases} y < x + 3 \\ y \geq -2x + 5 \end{cases}$$

5. Solve the system  $\begin{cases} y = x + 7 \\ 6x + y = -14 \end{cases}$ 

10. Graph the system of inequalities

$$\begin{cases} 3x \geq y - 1 \\ 3x - 7y \leq 14 \end{cases}$$



**FINAL EXAM REVIEW: MISCELLANEOUS**

1. The cost of renting a surf board is \$15 an hour plus a \$30 deposit. What is the maximum number of hours you can rent the surf board if you cannot exceed \$120?

2. Two cars left Disneyland traveling in opposite directions. If one car averages 50 mph and the other averages 90 mph, in how many hours will the distance between the two cars be 700 miles?

3. A rope is cut into four pieces. The first piece is four times as big as the second piece. The third piece is three times as big as the second. The fourth piece is twice as big as the second. The length of the rope is 200 feet. What is the length of the biggest piece?

4. The total number of problems that Keith can grade in  $x$  hours is given by the equation:

$$y = 9x + 14$$

If Keith graded 104 math problems how long did he work?

5. Julie drives for 3 hours at an average speed of 60 mph. During the first 2 hours of her drive, she averaged 50 mph. What was the average speed for her last hour?

6.  $3(x - 3) = 5x + 7$

**Step 1:**  $3x - 9 = 5x + 7$

**Step 2:**  $-9 = 2x + 7$

**Step 3:**  $-2 = 2x$

**Step 4:**  $-1 = x$

Which is the first incorrect step?

7. Is the equation  $5x - 2(x - 2) = 7$  equivalent to  $3x + 4 = 7$  ?

- A) Yes, the equations are equivalent by the Associative Property of Multiplication.
- B) Yes, the equations are equivalent by the Commutative Property of Multiplication.
- C) Yes, the equations are equivalent by the Distributive Property of Multiplication & Addition.
- D) No, The equations are not equivalent.

8. Jamarcus' solution to an equation is shown below;

**Given:**  $2p + 2(1 - 2p) = 30$

**Step 1:**  $2p + 2 - 4p = 30$

**Step 2:**  $-2p + 2 = 30$

**Step 3:**  $-2p = 28$

**Step 4:**  $p = -56$

- A) Jamarcus' solution is correct
- B) Jamarcus made a mistake in Step 1
- C) Jamarcus made a mistake in Step 2
- D) Jamarcus made a mistake in Step 4

9. Write a counterexample to the statement below.

The sum of any two even integers is always positive

10. When is this statement true?

The opposite of a number is less than the original.

11. Which equation is equivalent to:

$$3x + 3(x - 5) = 12x$$

A)  $6x - 15 = 12x$

B)  $6x - 5 = 12x$

C)  $6x + 15 = 12x$

D)  $3x = 12x$

12. Which equation is equivalent to:

$$4(2 - 5x) = 3 - (4 - x)$$

A)  $21x = -9$

B)  $-19x = -9$

C)  $21x = 9$

D)  $-6x = -9$

13. Which equation is equivalent to:

$$5(3 - x) = 1 - 3(6 + 4x)$$

A)  $-9x = -32$

B)  $-7x = -32$

C)  $7x = 32$

D)  $x = 5$