

**Algebra 1 TEST 4 Review**  
Writing Equations/Scatterplots  
Linear Inequalities

Name \_\_\_\_\_

Date \_\_\_\_\_

**WRITING EQUATIONS:**

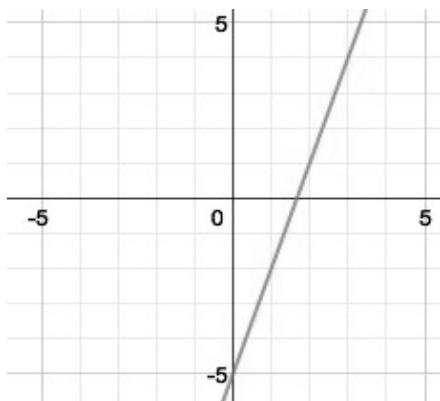
1 Which equation is equivalent to  $y = \frac{2}{3}x - 4$ ?

- A  $-3y = 2x + 12$
- B  $-3y = -2x - 12$
- C  $3y = 2x - 12$
- D  $-3y = -2x + 12$

2 Which equation is equivalent to  $y = -3x + 5$ ?

- A  $-4y = 12x + 20$
- B  $4y = 12x + 20$
- C  $-4y = -12x + 20$
- D  $4y = -12x + 20$

3



Which equation best describes the graph above?

- A  $2y = -6x + 10$
- B  $2y = 6x + 10$
- C  $2y = 6x - 10$
- D  $2y = -6x - 10$

4 Write an equation that contains  $(-3, 2)$  and  $(4, -1)$ ?

5 Write an equation that contains  $(2, -3)$  and  $(5, 1)$ ?

6 Which equation is the graph that contains  $(2, -8)$  and  $(6, -6)$ ?

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

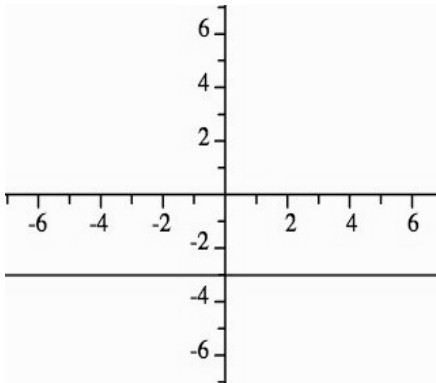
7 What is the equation of a line with a slope of 4 and containing the point  $(2, -5)$ ?

8 What is the equation of a line with a slope of  $-\frac{2}{5}$  and which contains the point  $(5, -2)$ ?

9 What is the equation of a line with a slope of  $\frac{1}{3}$  and which contains the point  $(0, 7)$ ?

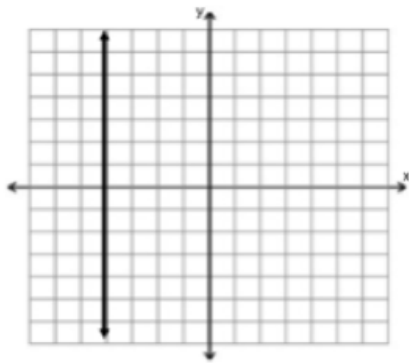
- A  $y = \frac{1}{3}x + 7$
- B  $y = \frac{1}{3}x - 7$
- C  $x = \frac{1}{3}y + 7$
- D  $x = \frac{1}{3}y - 7$

10 Consider the graph:



The slope of this line is \_\_\_\_\_  
 The equation of this line is \_\_\_\_\_

11 Consider the graph:



The slope of this line is \_\_\_\_\_  
 The equation of this line is \_\_\_\_\_

12 What is the equation of the line containing the point (8, 0) and whose slope is undefined?

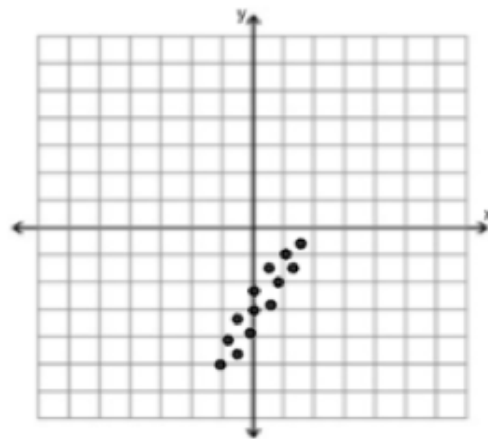
- A  $y = 8x$
- B  $y = 8$
- C  $x = 8$
- D  $y = x + 8$

13 What is the equation of the line passing through (0, -2) and whose slope is zero?

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

**SCATTERPLOTS/DATA PREDICTIONS:**

14



Which equation most closely describes a line of best fit for the data?

- A  $y = 2x - 3$
- B  $y = 2x + 3$
- C  $y = 2x - 1$
- D  $y = -2x - 3$

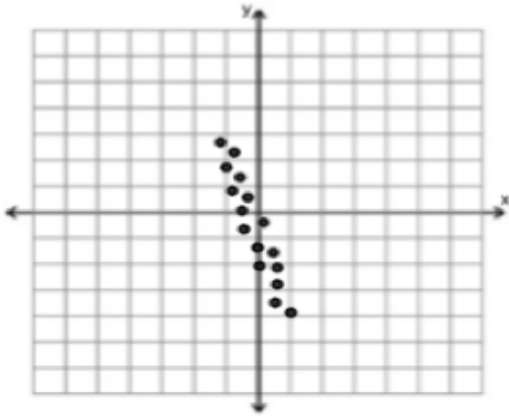
15

a	b
1	5
2	7
3	7
4	11

Choose the equation for the line that best fits the data in the table above.

- A  $b = a + 4$
- B  $a = 7$
- C  $b = 4a - 5$
- D  $b = 2a + 3$

16



Which equation most closely describes a line of best fit for the data?

- A  $y = 4x + 1$
- B  $y = -4x - 1$
- C  $y = -4x + 1$
- D  $y = 4x - 1$

17 The table shows the average hourly earnings of U.S. production workers for selected years.

Year	Earnings
1970	\$3.23
1975	\$4.53
1980	\$6.66
1985	\$8.57
1990	\$10.01
1995	\$11.43

Using the equation of a line of best fit for the data, estimate the hourly earnings in 2010?

18 The table shows an estimate for the number of bald eagle pairs in the United States from certain years since 1985.

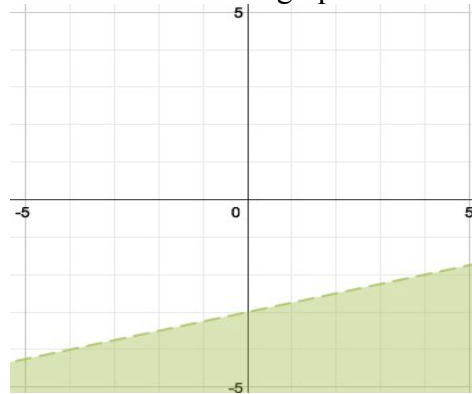
Years Since 1985 (x)	3	5	7	9
Bald Eagle Pairs (y)	2500	3000	3700	4500

Which equation represents this data algebraically?

- A  $y = -3x + 41$
- B  $y = 33x + 415$
- C  $y = 335x + 1415$
- D  $y = 3353x + 4115$

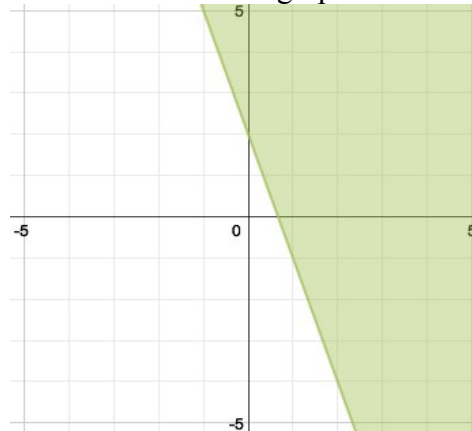
**LINEAR INEQUALITIES:**

19 Consider the graph:



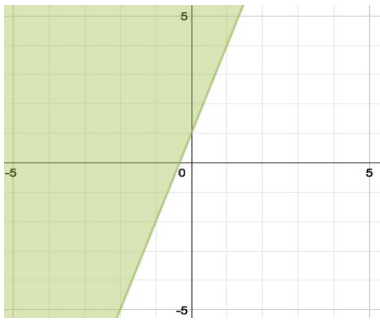
Write an inequality for the graph above.

20 Consider the graph:



Write an inequality for the graph above.

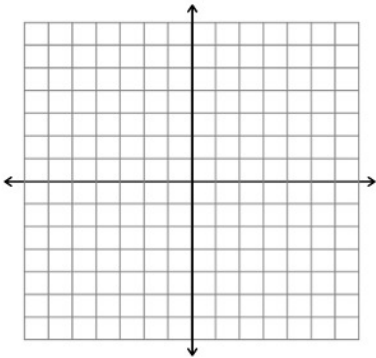
21



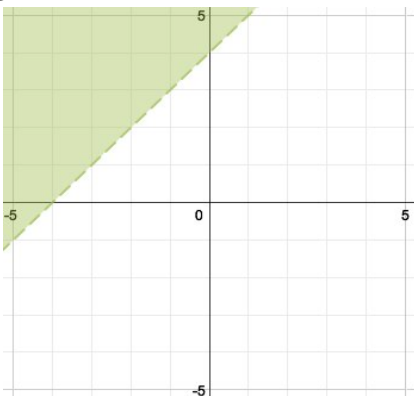
Which inequality best describes the graph above?

- A  $y \leq 1/3x + 1$
- B  $y \geq 1/3x + 1$
- C  $y \geq 3x + 1$
- D  $y \leq 3x + 1$

22 Graph  $2x - 3y \geq -9$ ?



23



Which inequality best describes the graph above?

- A  $-x + y > 4$
- B  $-x + y < 4$
- C  $y < x + 4$
- D  $y > -x - 4$

**Cumulative Review**

24 Name that property that justifies each step in the solving of this equation.

$4(x + 3) - 2x = 18$  Given

$4x + 12 - 2x = 18$  \_\_\_\_\_

$4x - 2x + 12 = 18$  \_\_\_\_\_

$(4x - 2x) + 12 = 18$  \_\_\_\_\_

$2x + 12 = 18$  \_\_\_\_\_

$2x = 6$  \_\_\_\_\_

$x = 3$  \_\_\_\_\_

25 Evaluate  $-1/2m^2 - 7$  when  $t = -4$ .

26 Write an algebraic expression  
*Seven less than one-third a number*

27 What is the solution to  
 $2(x + 5) = 3(x - 4)$

28 What values of  $x$  make the following inequality true? Show the solutions graphically.

$-4(x + 2) \geq 12$

29 Find the slope of the line containing the two points  $(2, -11)$  and  $(-2, 17)$ .

30 What is the slope and y-intercept of  $y = 2x - 9$ ?  $m = \underline{\hspace{1cm}}$   $b = \underline{\hspace{1cm}}$