

Name \_\_\_\_\_

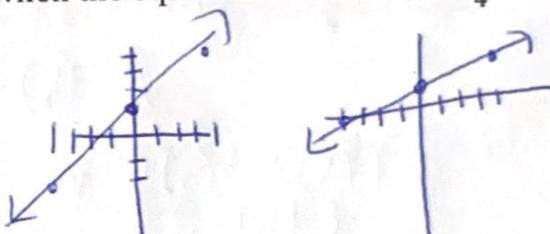
Date \_\_\_\_\_

**Algebra 1 EOC Review A**

Answer all questions to the best of your ability.

1. How does the graph of  $y = \frac{3}{4}x + 1$  change when the equation becomes  $y = \frac{1}{4}x + 1$ ?

- A. The line on the graph moves down.
- B. The line on the graph moves up.
- C. The line on the graph becomes steeper.
- D. The line on the graph becomes flatter.



2. Write  $x + 3y = 5$  in slope-intercept form.

- A.  $y = -\frac{1}{3}x + 5$
- B.  $y = -\frac{1}{3}x + \frac{5}{3}$
- C.  $y = -3x + 5$
- D.  $y = -3x + \frac{5}{3}$

$$\begin{aligned} x + 3y &= 5 \\ 3y &= -x + 5 \\ y &= -\frac{1}{3}x + \frac{5}{3} \end{aligned}$$

3. Simplify:  $(4x^2 + 2x - 7) - (8 - 6x^2 + 3x)$

- A.  $10x^2 - x - 15$
- B.  $10x^2 + 5x + 1$
- C.  $-2x^2 - x - 15$
- D.  $-2x^2 + 5x + 1$

$$\begin{aligned} (4x^2 + 2x - 7) - (8 - 6x^2 + 3x) \\ 4x^2 + 2x - 7 - 8 + 6x^2 - 3x \\ 10x^2 + x - 15 \end{aligned}$$

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

- A.  $6x^2 - 20$
- B.  $6x^2 - 8x - 20$
- C.  $6x^2 + 23x - 20$
- D.  $6x^2 + 7x - 20$

$$\begin{aligned} 6x^2 - 8x + 15x - 20 \\ 6x^2 + 7x - 20 \end{aligned}$$

5. Solve:  $\frac{3}{4}(8x - 12) + 7 = \frac{1}{2}(12x - 4)$

- A. Infinitely many solutions
- B. No solution
- C.  $x = 3$
- D.  $x = -4$

$$\begin{aligned} 6x - 9 + 7 &= 6x - 2 \\ 6x - 2 &= 6x - 2 \end{aligned}$$

6. What equation matches the graph?

A.  $y > \frac{1}{2}x + 3$

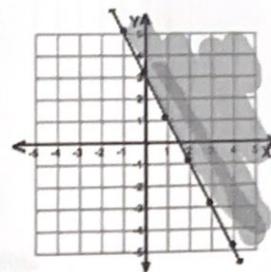
B.  $y \leq \frac{1}{2}x + 3$

C.  $y < -2x + 3$

D.  $y \geq -2x + 3$

$0 < -2(0) + 3$        $0 < 3$  true

$0 \geq -2(0) + 3$        $0 \geq 3$  false



$(0, 0) = \text{false}$

7. What is the vertex for the parabola  $2x^2 - 8x + 3$ ?

A.  $(-2, 5)$

B.  $(2, -5)$

C.  $(4, 3)$

D.  $(-4, 6)$

$\frac{-b}{2a} = \frac{8}{2(2)} = \frac{8}{4} = 2 = x$

$(2, -5)$

$y = 2(2)^2 - 8(2) + 3$   
 $8 - 16 + 3$   
 $-8 + 3 = -5$

8. What is the equation of a line that has a slope of  $-\frac{1}{3}$  and goes through points  $(-9, 4)$ ?

A.  $y = -\frac{1}{3}x + 7$

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

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

D.  $y = -\frac{1}{3}x - 7$

$y = -\frac{1}{3}x + b$   
 $4 = -\frac{1}{3}(-9) + b$   
 $4 = 3 + b$   
 $b = 1$

9. Which of the following lines is parallel to  $6x - 2y = 10$ ?

A.  $y = -3x + 5$

$6x - 2y = 10$

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

$-2y = -6x + 10$

C.  $y = 3x + 2$

$y = 3x + 5$

D.  $y = \frac{1}{3}x + 4$

10. Given  $f(x) = -2x^2 + 4x - 1$ , find  $f(-3)$ .

A.  $-31$

$-2(-3)^2 + 4(-3) - 1$

B.  $-7$

$-2(9) + -12 - 1$

C.  $23$

$-18 - 12 - 1$

D.  $47$

$-31$

11. Sarah can run 7 miles in 56 minutes. If Lauren runs at the same rate, how long will it take her to run 9 miles?

A. 1 hour 2 minutes

$\frac{56 \text{ min}}{7 \text{ miles}} = \frac{?}{9 \text{ miles}}$

$56 \times 9 = 7x$

B. 1 hour 6 minutes

$504 = 7x$

C. 1 hour 8 minutes

$72 \text{ min} = 1 \text{ hour} + 12 \text{ min}$

D. 1 hour 12 minutes

$$\begin{array}{r} 56 \\ \times 9 \\ \hline 504 \\ + 72 \\ \hline 504 \end{array}$$

12. Solve.  $8 - 5x \leq 2(4x + 3) - 10$

A.  $x \geq 4$

$8 - 5x \leq 2(4x + 3) - 10$

B.  $x \geq \frac{12}{13}$

$8 - 5x \leq 8x + 6 - 10$

C.  $x \leq 4$

$8 - 5x \leq 8x - 4$

D.  $x \leq \frac{12}{13}$

$12 - 5x \leq 8x$   
 $12 \leq 13x$   
 $\frac{12}{13} \leq x$