Final Exam

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Write the slope-intercept form of the equation of the line satisfying the given conditions.

1) Through $(4, 4)$; slope = $-\frac{5}{8}$ 1) _____

A) $y = -\frac{5}{8}x + \frac{2}{13}$ B) $y = -\frac{5}{8}x - \frac{13}{2}$ C) $y = -\frac{5}{8}x + \frac{13}{2}$ D) $y = -\frac{8}{5}x - \frac{2}{13}$

2) Through $(0, 5)$; slope = $\frac{2}{3}$ 2) _____

A) $y = -\frac{2}{3}x + 5$ B) $y = -\frac{3}{2}x + \frac{1}{5}$ C) $y = \frac{2}{3}x - \frac{1}{5}$ D) $y = \frac{2}{3}x + 5$

3) Through $(4, -9)$; slope = 0 3) _____

A) $x = 4$ B) $y = \frac{9}{4}x + 0$ C) $y = -9$ D) $y = \frac{4}{9}x + 0$

4) x-intercept $(6, 0)$; slope = -5 4) _____

A) $y = -5x + 30$ B) $y = -6x - 5$ C) $y = 5x + 6$ D) $y = 6x - 5$

5) Through $\left(\frac{1}{6}, \frac{8}{5}\right)$; undefined slope 5) _____

A) $y = \frac{8}{5}$ B) $y = \frac{1}{6}$ C) $x = \frac{1}{6}$ D) $x = \frac{8}{5}$

Write the slope-intercept form of the equation for the line passing through the given pair of points.

6) (-2, 2) and (-4, 9) 6) _____

A) $y = \frac{7}{2}x - 5$ B) $y = -\frac{7}{2}x - 5$

C) $y = -\frac{4}{13}x + \frac{133}{13}$ D) $y = \frac{4}{13}x + \frac{133}{13}$

7) (9, -4) and (7, 1) 7) _____

A) $y = -\frac{13}{6}x - \frac{85}{6}$ B) $y = \frac{13}{6}x - \frac{85}{6}$ C) $y = -\frac{5}{2}x + \frac{37}{2}$ D) $y = \frac{5}{2}x + \frac{37}{2}$

8) (10, -10) and (10, -1) 8) _____

A) $-1x - 10y = 0$ B) $-10x - 1y = 0$ C) $x = 10$ D) $y = -10$

Restate the equation in slope-intercept form.

9) $x - 9y = 5$ 9) _____

A) $y = 9x - 5$ B) $y = \frac{1}{9}x - \frac{5}{9}$ C) $y = \frac{1}{9}x - 5$ D) $y = x - \frac{5}{9}$

10) $4x - 2y = -10$ 10) _____

A) $y = 1x - 5$ B) $y = 2x + 5$ C) $y = 2x + 12$ D) $y = 6x + 5$

Solve by the elimination method.

11) $7x + 8y = 51$ 11) _____
$3x + 5y = 25$

A) $\{(5, 2)\}$ B) $\{(4, 3)\}$ C) No solution D) $\{(5, 3)\}$

12) $4x + 5y = -35$ 12) _____
$-2x + 2y = -14$

A) $\{(-1, -6)\}$ B) No solution C) $\{(0, -6)\}$ D) $\{(0, -7)\}$

13) $3x - 6y = -4$ 13) _____
$-9x + 18y = -12$

A) Infinitely many solutions B) $\{(12, -24)\}$
C) No solution D) $\{(-12, 24)\}$

14) $x + 3y = 8$ 14) _____
$5x + 15y = 40$

A) No solution B) $\left\{\left(x, -\frac{1}{3}x + \frac{8}{3}\right)\right\}$ C) $\{(5, 5)\}$ D) $\{(x, 3x + 8)\}$

Solve by the substitution method.

15) $y = 4x + 3$ 15) _____
$2x + y = 21$

A) $\{(15, -9)\}$ B) $\{(2, 11)\}$ C) $\{(15, 3)\}$ D) $\{(3, 15)\}$

16) $x - 2y = 5$ 16) _____
$x = y + 2$

A) $\emptyset$ B) Infinite number of solutions
C) $\{(-1, -3)\}$ D) $\{(-1, 2)\}$

17) $\frac{1}{3}x + \frac{1}{3}y = -3$ 17) _____

$x - y = -3$

A) $\{(-6, -3)\}$ B) $\{(6, -2)\}$ C) $\{(-7, -2)\}$ D) $\emptyset$

18) $3x - 13 = -y$ 18) _____
$2x + 9y = -8$

A) $\{(-5, 2)\}$ B) $\{(-5, -2)\}$ C) $\{(5, -2)\}$ D) $\{(5, 2)\}$

Decide whether the ordered pair is a solution of the given system.

19) $(2, -3)$ 19) _____
$3x + y = 3$
$2x + 3y = -5$

A) Yes B) No

20) (-2, -6) 20) _____

$2x + y = 2$

$3x + 2y = 6$

A) Yes B) No