MAT 1311, College Algebra, Spring 2010 Quiz 4mw Name: Key B

4pts ea

General Instructions: If there is any work to show, show it!

1. Circle the correct answer. Is each equation a function?

a) $|y-2| = x+3$ Yes / (No)

b) $x^3 + y^2 = 5$ Yes / (No)

c) $x^4 + y^5 = 6$ (Yes) / No

d) $y - 4 = 5x$ (Yes) / No

2. What is the slope of each line?

a) Line: $y = -3x + 1$ slope: -3

b) Line: $x = 4$ slope: Undefined

c) Line: $y = -3$ slope: 0

3. Find the requested information for each line. (1pt ea)

a) Line: $y = 2x + 9$ slope: 2 a point on the line: $(0, 9)$

b) Line: $y + 3 = \frac{2}{7}(x - 8)$ slope: $\frac{2}{7}$ a point on the line: $(8, -3)$

c) Line: $5x + 6y = 9$ slope: $-\frac{5}{6}$ y-intercept: $\frac{9}{6}$ or $\frac{3}{2}$ $6y = -5x + 9$, $y = -\frac{5}{6}x + \frac{9}{6}$

d) Line: $y = \frac{-3}{7}x + 5$ slope: $-\frac{3}{7}$ y-intercept: 5

12pts

4. a) Write the equation of a line with y-intercept 7 and perpendicular to the line $y = \frac{5}{6}x + 4$

$y = -\frac{6}{5}x + 7$

12pts

b) Write the equation of a line through the point (2,-7) and parallel to the line $y = \frac{3}{5}x - 1$

$y + 7 = \frac{3}{5}(x - 2)$

MAT 1311, College Algebra, Spring 2010 Quiz 4mw Name: Key A

General Instructions: If there is any work to show, show it!

1. Find the requested information for each line.

a) Line: $y - 4 = \frac{3}{5}(x + 7)$ slope: $\frac{3}{5}$ a point on the line: $(-7, 4)$

b) Line: $y = \frac{-4}{9}x - 2$ slope: $-\frac{4}{9}$ y-intercept: -2

c) Line: $y = 3x - 7$ slope: 3 a point on the line: $(0, -7)$ or $(1, -4)$

d) Line: $3x + 4y = 7$ slope: $-\frac{3}{4}$ y-intercept: $\frac{7}{4}$

$4y = -3x + 7$ $y = -\frac{3}{4}x + \frac{7}{4}$

2. What is the slope of each line?

a) Line: $y = -2x + 1$ slope: -2

b) Line: $y = 5$ slope: 0

c) Line: $x = -3$ slope: undefined

3. a) Write the equation of a line with y-intercept -5 and perpendicular to the line $y = \frac{5}{6}x + 4$

$y = -\frac{6}{5}x - 5$

b) Write the equation of a line through the point (-3,5) and parallel to the line $y = \frac{3}{4}x - 1$

$y - 5 = \frac{3}{4}(x + 3)$

4. Circle the correct answer. Is each equation a function?

a) $y = |x - 5|$ (Yes) / No

b) $x^2 + y^3 = 5$ (Yes) / No

c) $x^3 + y^4 = 6$ Yes / (No)

d) $y = 3x - 4$ (Yes) / No

MAT 1311, College Algebra, Spring 2010 Quiz 5mw Name: Key B

Show enough work so that I can see what method (elimination or substitution) you are using!

1. Sove each system of equations:

a) $2x + 3y = 6$
$3x - 4y = -25$

$\times 3$, $\times(-2)$

$6x + 9y = 18$
$-6x - 8y = 50$

$17y = 68$

$y = 4$

$2x + 3(4) = 6$
$2x + 12 = 6$
$2x = -6$
$x = -3$

$(-3, 4)$

b) $4x - 3y = 5$
$-2x + y = -1$

$(-1, -3)$

$y = 2x - 1$

$4x - 3(2x - 1) = 5$
$4x - 6x + 3 = 5$
$-2x = 2$
$x = -1$

$y = 2(-1) - 1$
$y = -3$

c) $x + 2y + 3z = -4$
$3x + 2y + z = 8$
$5x - y + 3z = -5$

$\times(-3)$

$x + 2y + 3z = -4$
$-9x - 6y - 3z = 24$
$-8x - 4y = 28$

$\times(-1)$

$x + 2y + 3z = -4$
$-5x + y - 3z = 5$
$-4x + 3y = 1$

$\times(-2)$

$-8x - 4y = 28$
$8x - 6y = -2$
$-10y = 30$
$y = 3$

$-4x + 3(3) = 1$
$-4x + 9 = 1$
$-4x = -8$
$x = 2$

$2 + 2(3) + 3z = -4$
$2 + 6 + 3z = -4$
$8 + 3z = -4$
$3z = -12$
$z = -4$

$(2, 3, -4)$

MAT 1311, College Algebra, Spring 2010 Quiz 5mw Name: Key A

Show enough work so that I can see what method (elimination or substitution) you are using!

1. Sove each system of equations:

a) $4x - 3y = 33$

$-2x + y = -13$

$y = 2x - 13$

$4x - 3(2x-13) = 33$

$4x - 6x + 39 = 33$

$-2x = -6$

$x = 3$ $y = -7$

b) $2x + 3y = -13$ $\xrightarrow{(\times 3)}$ $6x + 9y = -39$

$3x - 4y = 6$ $\xrightarrow{(\times -2)}$ $-6x + 8y = -12$

$17y = -51$

$y = -3$

$2x + 3(-3) = -13$

$2x - 9 = -13$

$2x = -4$

$x = -2$

c) $x + 2y + 3z = 4$

$3x + 2y + z = -4$

$5x - y + 3z = 6$

$(-1, -2, 3)$

$\times(-3)$

$x + 2y + 3z = 4$

$-9x - 6y - 3z = 12$

$-8x - 4y = 16$

$\times -3$

$-9x - 6y - 3z = 12$

$5x - y + 3z = 6$

$-4x - 7y = 18$

$-8x - 4y = 16$

$-4x - 7y = 18$

$-8x - 4y = 16$

$8x + 14y = -36$ $\times(-2)$

$10y = -20$

$y = -2$

$-4x - 7(-2) = 18$

$-4x + 14 = 18$

$-4x = 4$

$x = -1$

$3(-1) + 2(-2) + z = -4$

$-3 - 4 + z = -4$

$-7 + z = -4 \Rightarrow z = 3$