Math 1201 Chapter 6 SAMPLE TEST Answers

Part A: Multiple Choice Place the letter that corresponds to the correct answer in the space provided to the right. (10 marks)

1. **B** 1. Find the slope of the line that passes through the points A(2, -3) and B(-5, 7). a) $-\frac{12}{5}$ b) $-\frac{10}{7}$ c) $-\frac{7}{10}$ d) $-\frac{4}{7}$ 2._**D** 2. What is the y-intercept of x - 2y + 3 = 0? b) $-\frac{3}{2}$ c) $\frac{1}{2}$ d) $\frac{3}{2}$ a) – 3 3. **B** 3. What is the slope of the line 2x - 3y = 48? b) $\frac{2}{3}$ c) $-\frac{1}{2}$ a) $-\frac{2}{3}$ d) $\frac{1}{2}$ 4. Given: 2x + 4y = 11 what is the x-intercept? 4. **A** b) $\frac{11}{4}$ d) $\frac{-11}{4}$ a) $\frac{11}{2}$ c) $\frac{-11}{2}$ 5. **D** 5. What is the equation of the line given in the diagram? a) $y = \frac{1}{2}x + 3$ b) $y = \frac{1}{2}x - 3$ c) y = 2x + 3d) y = 2x - 36.**_A** 6. What is the equation of a line with undefined slope and passes through the point (0,-3)? c) y = 0b) x = -3 d) y = -3a) x = 0 7. What is the slope of the line that is perpendicular to $y = \frac{1}{2}x - 4$? 7. **D** a) $-\frac{1}{2}$ c) $\frac{1}{2}$ b) 2 d) – 2 8._**A** 8. What is the slope of the line parallel to y + 6 = -4(x - 1)? c) $\frac{1}{4}$ d) $-\frac{1}{4}$ b) 4 a) – 4

- 9. What is the equation of the line with a slope of zero and passing through the point (2,6) ?
- a) x = 2 b) y = 2
- c) x = 6 d) y = 6

10. Which equation is in general form?

a) y=2x+3b) -3x+4y+24=0c) 0.5x = 2y-2d) 4x-3y+24=0

Part B: Long Answer Questions:

Complete each of the following in the space provided. Be sure to show *ALL* necessary workings for full credit. (20 marks)

11. Write the equation of a line in **slope intercept form** that passes through (1, -2) and (4, 5). (3 marks)

$$y=\frac{7}{3}x-\frac{13}{3}$$

12. Write the equation y - 3 = 2(x + 1) in general form. (3 marks)

$$2x - y + 5 = 0$$

13a) . Change the equation 4x - 3y - 12 = 0 to slope intercept form. (2 marks)

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

a) State the slope and y- intercept. (2 marks)

slope =
$$\underline{\frac{4}{3}}$$

y - intercept = $\underline{-4}$

b) Graph the line. (2 marks)



10._**D**

9. **D**

14. a) Plots the points on the grid below. A(-5,1), B(-3,4), C(3,0), D(1,-3). Connect the points to form a parallelogram. (2 marks)



b) Is the parallelogram a rectangle? Show all necessary workings. (3 marks)

Slope AB = $\frac{3}{2}$	Slope CD = $\frac{3}{2}$	
Slope AD = $-\frac{2}{3}$	Slope BC = $-\frac{2}{3}$	ſ

Adjacent sides have negative reciprocal slopes which means the sides are perpendicular and meet at right angles. Therefore, this parallelogram is also a rectangle.

15. Determine the slope of each line segment. Is ΔRST a right triangle? Justify your answer with workings. (3 marks)

Slope SR = 5

Slope ST = -1

Slope RT = $\frac{1}{11}$

Adjacent sides do not have negative reciprocal slopes therefore this is not a right triangle.

