

**MATH2 (814012) – SPRING 2006-02-05**

**HOMEWORK OF UNIT 1**

**THE CARTESIAN COORDINATE SYSTEM**

**Question (1):** Plot the following points on the rectangular coordinate system:

- (1)  $(-2, 1)$     (2)  $(2, -\frac{1}{3})$     (3)  $(0, -2)$     (4)  $(-3, 0)$     (5)  $(-2, \pi)$     (6)  $(-1.4, 0.5)$

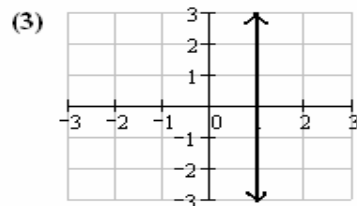
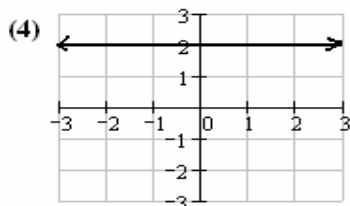
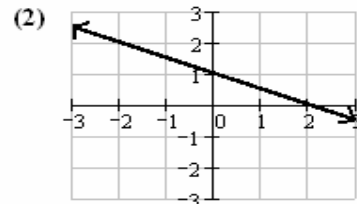
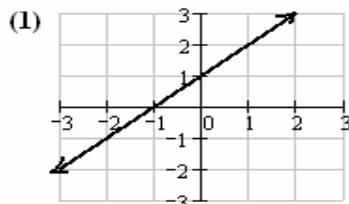
**Question (2):** Complete each ordered pair so that it satisfies the given equation, then graph each line:

- (1)  $y = 2x + 5$  :  $(8, \quad)$ ,  $(-1, \quad)$ ,  $(\quad, -1)$     (2)  $3x + 5y = 0$  :  $(-5, \quad)$ ,  $(\quad, -3)$ ,  $(10, \quad)$   
 (3)  $x = -1$  :  $(\quad, 2)$ ,  $(\quad, -2)$ ,  $(\quad, 0)$     (4)  $y - 3 = 0$  :  $(-1, \quad)$ ,  $(3, \quad)$ ,  $(0, \quad)$

**Question (3):** Find  $x$  and  $y$ -intercepts, then graph the following equations:

- (1)  $y = 3x + 9$     (2)  $2x - 3y = 6$     (3)  $x = 3$     (4)  $y = -2$

**Question (4):** Find the slope of the lines in the given graphs:



**Question (5):** Find the slope of the line that passes through the two given points in each case:

- (1)  $(4, -1)$  and  $(-3, -1)$     (2)  $(2, 5)$  and  $(6, 10)$   
 (3)  $(3, 9)$  and  $(6, 6)$     (4)  $(-2, 4)$  and  $(-2, 1)$

**Question (6):** Graph the line with the given point and slope in each of the following cases:

- (1) The line passes through  $(1, 1)$  and with slope of  $\frac{2}{3}$ .  
 (2) The line passes through  $(-2, 3)$  and with slope of  $-2$ .  
 (3) The line passes through the origin and with slope of  $-\frac{3}{2}$ .  
 (4) The line passes through  $(1, -2)$  and with zero slope.



**Question (13):**

- (a) Find the equation of the line that passes through  $(2, 5)$  and with slope of  $-4$ . Present your answer in the slope-intercept form.
- (b) Find the equation of the line that passes through  $(-3, 3)$  and with slope of  $2$ . Present your answer in the slope-intercept form.
- (c) Find the equation of the line that passes through the points  $(2, 5)$  and  $(-1, 8)$ .
- (d) Find the equation of the line that passes through the points  $(0, 2)$  and  $(-2, 0)$ .