Name:

Review - Unit 2

- 1. Graph the line through each point with each given slope. a) C(-4, 2), slope -1 b) D(5, -3), slope $\frac{5}{2}$ c) E(-6, -1), slope undefined d) M(2, 5), slope $\frac{1}{4}$ e) N(-2, -4), slope $-\frac{2}{3}$ f) P(-1, 3), slope 0
- 2. Write the equation of each line in the form y = mx + b with each slope and y-intercept. a) slope $-\frac{1}{4}$, y-intercept 3 b) slope 1, *y*-intercept -2 c) slope $\frac{2}{5}$, y-intercept -4
- 3. Match each line, right, with its equation.
 - a) y = -2 b) $y = \frac{1}{2}x + 2$ c) y = -x + 2 d) $y = \frac{1}{2}x - 2$
 - e) y = 2x + 2 f) y = -2x + 2



- 4. Graph each line then write its equation.
 - a) Every point on the line has the *x*-coordinate -3.
 - b) Every point on the line has the *y*-coordinate 2.
- 5. Determine the slope and *y*-intercept.

a)
$$y = -2x$$

b) $y = x + 7$
c) $y = -x - 11$
d) $y = \frac{2}{3}x - 5$
e) $y = -\frac{5}{2}x + 4$

- 6. Graph each line using the slope and *y*-intercept.
 - a) $y = -\frac{3}{2}x$ b) y = 4xc) y = -xd) $y = \frac{1}{3}x$ e) y = -2x 5f) $y = \frac{2}{3}x + 2$ g) $y = -\frac{1}{6}x 1$

7. Write each equation in the form y = mx + b.



- 8. The coordinates of a point on a line and the slope of the line are given. i) Graph each line ii) Write each equation in the form y = mx + b.
 - a) J(1, 3), slope -3 b) K(-5, -2), slope $\frac{2}{5}$ c) L(4, 0), slope -2

9.	The coordinates of two points on a line are given.					
	i) Graph each line	ii)	Write each equation in the form $y = mx + b$.			
	a) (3, 5) and (-5, -3)		b) (2, -7) and (-1, -1)			
	c) (4, 2) and (-2, -1)		d) (6, 0) and (0, 5)			

- 10. A car travels at 65 km/h. The distance travelled, *d* kilometres, after *t* hours is given by the equation d = 65t.
 - a) Copy and complete this table.

<i>t</i> (h)	0	1	2	3	4	5
<i>d</i> (km)						

- b) Graph the relation.
- c) What is the *d*-intercept? What does it represent?
- d) What is the slope? What does it represent?
- e) Suppose the speed increased. How would the graph change?
- 11. Olaf is paid \$75/day plus \$15 commission for each product he sells. Let *y* dollars represent Olaf's total pay and *x* represent the number of products he sells.
 - a) Write an equation in the form y = mx + b, relating y and x.
 - b) Graph the relation.
 - c) What is the *y*-intercept? What does it represent?
 - d) How much would Olaf earn on a day he sells 6 products?
 - e) Suppose Olaf was paid \$95/day plus \$10 commission for each product he sells. Write an equation in the form y = mx + b, relating y and x.
- 12. Use the formula $m = \frac{y_2 y_1}{x_2 x_1}$ to find the slope of the line that passes through each pair of points. Simplify.
 - a) (3, -5) and (-4, 9) c) (-7, 1) and (5, -2) b) (4, 9) and (-1, 9) d) (-2, -4) and (-2, 1)
- 13. a) Determine the slope of the line through (5, 5) and (1, 2).
 - b) Determine the slope of the line through (-2, 3) and (4, -5).
 - c) Are the lines parallel?

- 14. a) Determine the slope of the line through (0, 6) and (-4, -6).
 - b) Determine the slope of the line through (1, 1) and (2, 4).
 - c) Are the lines parallel?
- 15. Determine the equation of each line in the form y = mx + b.
 - a) with slope -2, and passing through the point (3, -6) b) with slope $-\frac{3}{5}$, and passing through the point (-5, 0) c) with slope $\frac{4}{7}$, and passing through the point (21, 11)

16. Determine the equation of each line in the form y = mx + b. Begin with $m = \frac{y_2 - y_1}{x_2 - x_1}$.

- a) through the points (-1, 1) and (-3, 7)b) through the points (-1, 8) and (-2, 4)
- c) through the points (0, 8) and (3, -1)

d) through the points (-6, 5) and (-2, 3)

- 17. Rewrite each equation in the form y = mx + b.
 - b) -3x y + 8 = 0d) 6x 4y 16 = 0a) 7x + y - 9 = 0
 - c) 20x + 5y + 15 = 0