Mathattack 10

Algebra

Linear Graphs

Name: _____

Due Date

Mark

35

Side 1

1 (a) Use the equations to complete each table of values.

A $y = x + 1$

x	-3	-2	-1	0	1	2	3
y	-2						

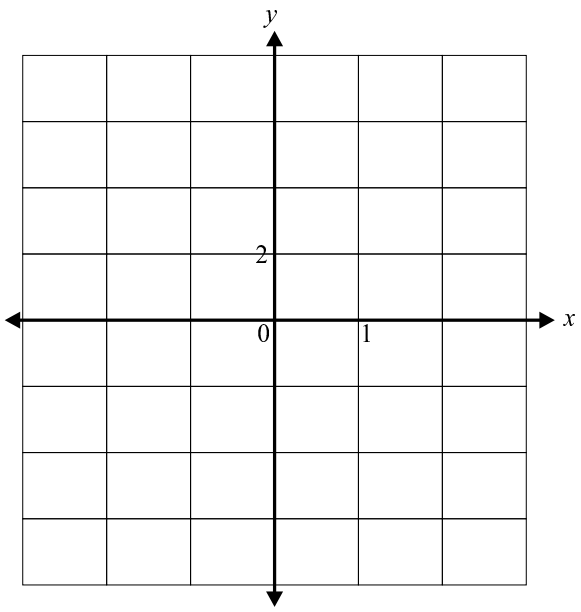
B $y = 2x$

x	-3	-2	-1	0	1	2	3
y	-6						

C $y = 2 - 2x$

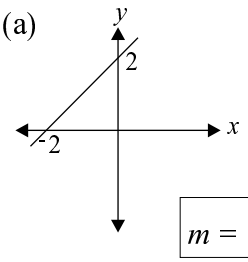
x	-3	-2	-1	0	1	2	3
y	8						

(b) Plot each set of points on the axes below.
Draw a straight line through each set of points.
Label each line.



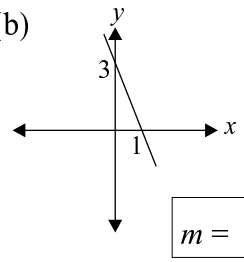
2. Find the gradient of these straight line graphs.

(a)



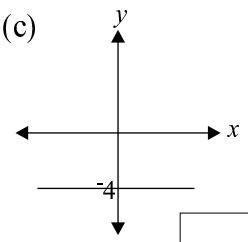
$m =$

(b)



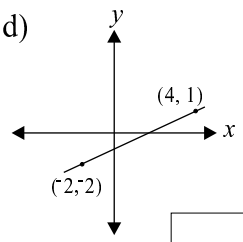
$m =$

(c)



$m =$

(d)



$m =$

3. Find the gradients of the lines passing through each pair of points.

(a) (0, 2) and (3, 11).

$m =$

(b) (-2, 1) and (4, -11)

$m =$

(c) (-1, -3) and (8, -6)

$m =$

(d) (2, 3) and (8, -6)

$m =$

4. Find the equation of the straight line that is parallel to the line with an equation of $y = 3x - 5$ and has a y-intercept of 2.

5. Complete the table below, stating the gradient and y-intercept of the straight lines with the following equations.

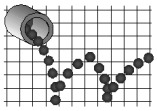
A $y = 3x + 1$ **B** $y = -3$

C $y = -x + 3$ **D** $y = 2 - 5x$

E $y = \frac{x}{4} - 2$ **F** $y = 3(x - 4)$

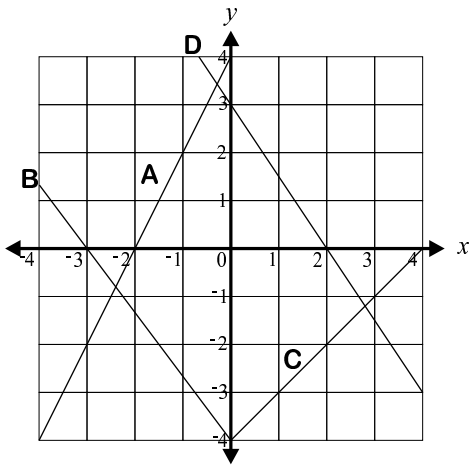
G $y - x = 4$ **H** $y + 2x + 1 = 0$

Equation	Gradient	y-intercept
A		
B		
C		
D		
E		
F		
G		
H		



Parent's Signature

6 (a) For the straight lines, A, B, C and D, state their x-intercept, y-intercept and gradient.



Line	x-intercept	y-intercept	Gradient
A			
B			
C			
D			

(b) Find the equation for lines A, B, C and D.

Line	Equation
A	
B	
C	
D	

7. When two straight lines are perpendicular, what is the product of their gradients?

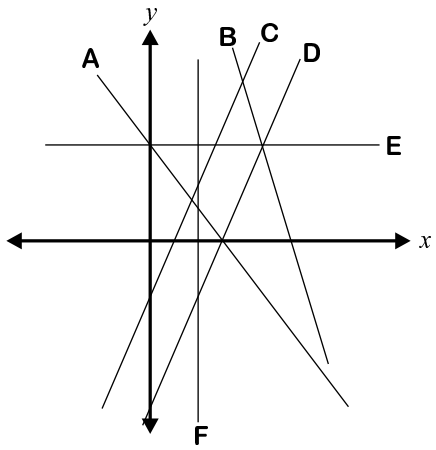
8. Find the x-intercept and y-intercept of the straight lines with the following equations.

A $y = x$ **B** $y + x = 6$

C $y = 3x + 6$ **D** $3y - 2x + 12 = 0$

Equation	x-intercept	y-intercept
A		
B		
C		
D		

9. Examine the straight lines drawn below.



Find:

(a) Two lines with the same x-intercept. and

(b) Two lines with the same y-intercept. and

(c) Two parallel lines. and

(d) The line with zero gradient.

(e) Two perpendicular lines. and