Mathematics Homework

Block 6

Linear Patterns Level 4

SHOW ALL WORKING!

Linear Patterns

1. Dave goes for a 20km sponsored walk. He walks at a constant speed and times himself as shown in the table opposite.

Distance (D km)	1	2	3	4	5	6
Time (T mins)	12	24	...	...	...	...

a) Copy and complete the table.
b) Find a formula connecting the time (T) and the distance travelled (D).
c) Use your formula to find the time taken to complete Dave's 20km walk.

2. For each of the tables below, determine a formula connecting the pairs of letters:-

a)

x	0	1	2	3
T	7	11	15	19

T = ??

b)

d	2	3	4	5
H	11	18	25	32

H = ??

c)

p	2	4	6	8
V	10	16	22	28

V = ??

3. Alex is on a slow moving elevator at the 4th floor.
He is on his way to the top of a New York skyscraper.

He time himself as he goes up.

a) Copy and complete this table which shows how long it took to reach different floors.

Time (T mins)	1	2	3	4	5
Floor reached (F)	9	14	19	...	...

b) Write a formula for F in terms of T. (F = ??)
c) Which floor will he be on after 10 mins?

4. Find a formula connecting A and t in the table opposite.

t	2	3	4	5
A	34	31	28	25

5. Look at the table below.

x	1	2	3	4
y	7	9	11	...

a) Determine a formula of the form,
y = ... x + ...
to show the relationship between x and y.

b) Draw a set of coordinate axes (similar to those shown opposite) and plot the 4 points represented in the table (the first one is plotted for you).

c) Join up the points to show that they form a straight line.