b) Left number + right number + (n-1) × (central numbers)
n = number of layers.

a)

F
d e
a b c

d = a+b
e = b+c
F = d+e

F
d e
a b c
4 4 8 6

F = (3×4) + (3×8) + 4 + 6 = 52

52
25 26
13 12 14
4 4 8 6

c) Yes because the central number is the only one which is multiplied by (n-1) so if you change it which a bigger number or smaller number the total number will get bigger or smaller so it will be different.

d) To get the largest number possible you must place the biggest number, in the bottom row, in the middle.

e) For example: 30

4 10 6

I chose 4 and six because they give me an even number so I can subtract it to 30 and have an even number in order to divide it by 2.

The (n-1) rule works even for a 5 layer pyramid.

64

28 36
12 16 20
5 7 9 11
2 3 4 5 6

64 = 2 + (3×4) + (4×4) + (5×4) + 6 + (4×2) = 64

For the 5 level one you need to ×2 the central number