

## Answers

- 1) a) 1,2,4 non-linear b) 3,3,3 linear c) -1,1,3 non-linear d) -4,-4,-4 linear  
2) a) linear b) non-linear  
3) a) linear,  $S = 5h + 1$ , 36 segments b) non-linear, 49 tiles  
4) a) linear,  $I = 2c - 2$ , 12 intersection points b) non-linear, 35 diagonals  
5) a)

Diagram Number	# Of Toothpicks
1	4
2	7
3	10
4	13

- b) first differences are the same, 3.  
c)  $T = 3d + 1$   
d) 31 toothpicks