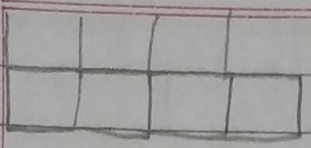
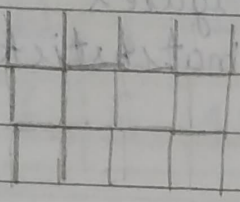
b) 

i) F in terms of n =
F = ~~4 x n + 1~~ 4n + 1

ii) 16 th figure = 16 x 4 + 1 = 65 matchsticks.
30 th figure = 30 x 4 + 1 = 121 matchsticks.

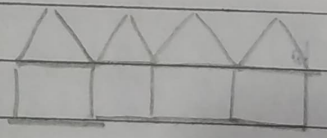
∴ 65 matchsticks are required to make 16 th figure and 121 matchsticks for 30 th figure.

c) 

i) F in terms of n =
F = 5n + 3

ii) 16 th figure = 16 x 5 + 3 = ~~80~~ 83 matchsticks.
30 th figure = 30 x 5 + 3 = 153 matchsticks.

∴ 83 matchsticks are required to make the 16 th figure and ~~30 th figure~~ 153 matchsticks for 30 th figure.

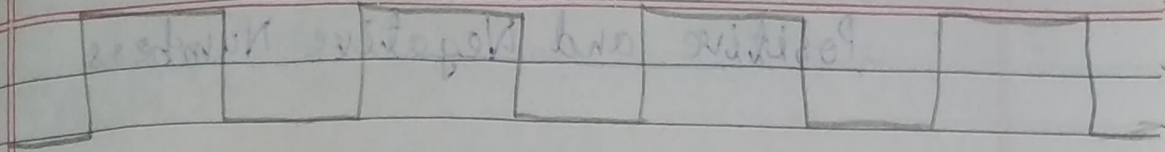
d) 

i) F in terms of n =
F = 5n + 1

ii) 16 th figure = 16 x 5 + 1 = 81 matchsticks.
30 th figure = 30 x 5 + 1 = 151 matchsticks.

∴ 81 matchsticks are required to make the 16 th figure and 151 for 30 th figure.

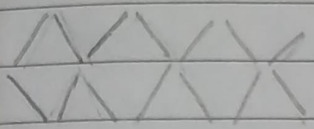
e)



i) F in terms of n =
$F = 4n+1$

ii) 16^{th} figure = $16 \times 4 + 1 = 65$ matchsticks
30^{th} figure = $30 \times 4 + 1 = 121$ matchsticks
So, 65 matchsticks are required to make the 16^{th} figure and 121 matchsticks for 30^{th} figure.

f)



i) F in terms of n =
$F = 4n-2$

ii) 16^{th} figure = 62 matchsticks
30^{th} figure = 118 matchsticks

∴ 62 matchsticks are required for the 16^{th} figure and 118 matchsticks for 30^{th} figure