***Q1.*  *If you were to construct a 8 x 8 chessboard, how many squares (within that chess board) would be there?***

***Solution:***

1x1 squares: 64, 2x2 squares: 49, 3x3 squares: 36,4x4 squares: 25

5x5 squares: 16

6x6 squares: 9

7x7 squares: 4

8x8 squares: 1

Now, add up all these numbers:

64 (1x1) + 49 (2x2) + 36 (3x3) + 25 (4x4) + 16 (5x5) + 9 (6x6) + 4 (7x7) + 1 (8x8) = 204

So, there are 204 squares in total on an 8x8 chessboard.

***Q2. If a person walks at 8 mph, he covers a certain distance. If he walks at 18 mph, he covers 15 miles more. How much distance did he actually cover?***

***Solution:***

Distance = Speed × Time

So, when he walks at 8 mph, he covers D miles in t hours:

D = 8t

Now, when the person walks at 18 mph, he covers 15 miles more than the distance he covered at 8 mph. This can be expressed as:

D + 15 = 18t

We can solve this system of equations to find the values of D and t. First, we'll solve equation (1) for t:

t = D/8

Now, substitute this expression for t into equation (2):

D + 15 = 18(D/8)

To solve for D, multiply both sides of the equation by 8 to eliminate the fraction:

8(D + 15) = 18D

Distribute the 8 on the left side:

8D + 120 = 18D

Now, subtract 8D from both sides:

120 = 10D

Finally, divide both sides by 10 to solve for D:

D = 120 / 10 D = 12

So, the person actually covered a distance of 12 miles.

***Q3. What is the maximum duration for being marked present in case you are late in the SE101 course?***

***Solution***

5 mins