سكشن (1):

- فكرة المجموع ← Σ.
- المتغيرات ← $x\ y\ z$.
- الثوابت ← $a\ b\ c$.

$$\sum_{i=1}^{n} x_i = x_1 + x_2 + x_3 + \cdots + x_n$$

(الدليل: n، الرقم الي هتقف عنده: i)

- لو $(i=2)$ ← هتجمع من أول (x_2)

$$\sum_{i=2}^{3} x_i = x_2 + x_3$$

- الحد: n، ثابت: c

$$\sum_{i=1}^{n} c = nc$$

$(x_1=2)\ (x_2=3)\ (x_3=4)$

$(x_1=4)\ (x_2=6)\ (x_3=8)$ ← $\times 2$

$$\sum_{i=1}^{3} 2x_i = 2x_1 + 2x_2 + 2x_3$$

$$2(2) + 2(3) + 2(4) = 18.$$

$$2\sum_{i=1}^{3} x_i = 2(x_1 + x_2 + x_3)$$

$$= 2(9) = 18.$$

مسائل السكشن:-

	x	y
1	2	1
2	2	0
3	1	1
4	1	0
5	2	2
6	0	1
7	3	1

$$\sum_{i=1}^{7} xy = \Sigma x \Sigma y$$

$$\Sigma x^2 = (\Sigma x^2)$$

$$\Sigma x - y = \Sigma x - \Sigma y$$

$$\Sigma x^2 - y^2 = \Sigma (x-y)(x+y).$$

$$\Sigma (x-y)(x+y) = \Sigma (x-y)\,\Sigma (x+y)$$ (لا)

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X	y	xy	x^2	y^2	x-y	(x-y)(x+y)	x^2-y^2	x+y
2	1	2	4	1	1	3	3	3
2	0	0	4	0	2	4	4	2
1	1	1	1	1	0	0	0	2
1	0	0	1	0	1	1	1	1
2	2	4	4	4	0	0	0	4
0	1	0	0	1	-1	-1	-1	1
3	1	3	9	1	2	8	8	4
3								
11	6	10	23	8	5	15	15	17

- $\sum_{i=1}^{7} xy \neq \sum x \sum y$ → $10 \neq 66$
- $\sum x^2 \neq (\sum x)^2$ → $23 \neq 121$
- $\sum x-y = \sum x - \sum y$ → $5 = 5$
- $\sum x^2-y^2 = \sum (x-y)(x+y)$ → $15 = 15$
- $\sum (x-y)(x+y) = \sum (x-y) \sum (x+y)$ → $15 \neq 85$

- $\sum_{i=1}^{6} X_i = -4$

- $\sum_{i=1}^{6} x^2 = 10$

21 المعلومة :

1- $\sum_{i=1}^{6} X_i(X_i - 1) = \Sigma X^2 - \Sigma X = 10 - (-4) = 14.$

2- $\sum_{i=1}^{6} (2X_i + 3) = 2\sum_{i=1}^{6} X_i + 3(n) = 2(-4) + 3(6) = -8 + 18 = 10.$

3- $\sum_{i=1}^{6} (X_i - 5)^2 = (X^2 - 10X + 25)$

مربع اول
مربع ثاني
الاول × الثاني ×2

$\Sigma X^2 - 10\Sigma X + n(C)$

$10 - 10(-4) + 6(25) \rightarrow 10 + 40 + 150$

$= 200.$