نقول ان مجموعة المتجهات 
$$V$$
 إذا تحقق  $\{v_1,v_2,v_3,\dots\dots\}$  الفضاء والمتجهات  $\{v_1,v_2,v_3,\dots\dots\}$ 

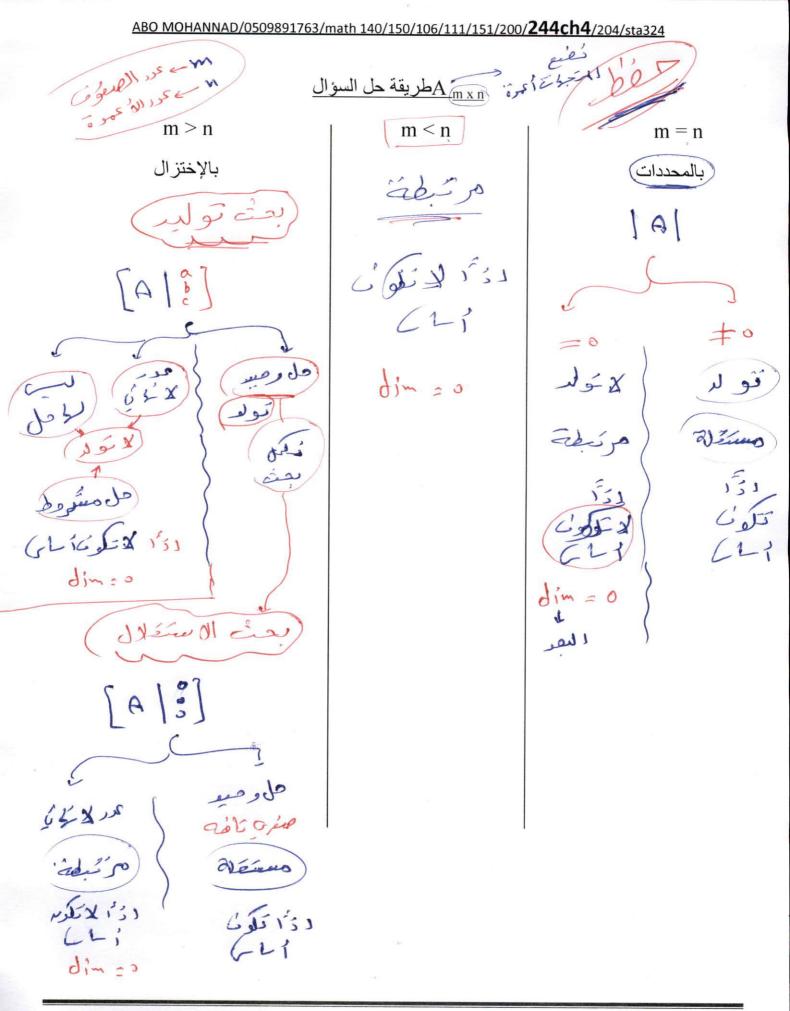
مستقلة خطيا 
$$\{v_1, v_2, v_3, \dots \}$$

$$V$$
 تولد  $\{v_1, v_2, v_3, \dots \}$ 

## الاساس المعتاد

$$S = \{ (1,0), (0,1) \}$$

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$$\{v_1 = (1,2,1), v_2 = (2,3,1), v_3 = (-1,2,-3) \in R^3\}$$
 $[a] \quad [a] \quad [b] \quad [a] \quad [b] \quad [a] \quad [b] \quad [b] \quad [c] \quad [c$ 

$$\{x^2+1, 2x, 3x^2-2x+3 \in P_2(x)\}$$
 $P_2(x)$ 
 $P_2(x)$ 
 $P_3(x)$ 
 $P_4(x)$ 
 $P_4(x)$ 

تمرين: بين هل المتجهات

$$\left\{ \begin{bmatrix} 0 & -1 \\ -1 & 0 \end{bmatrix}, \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}, \begin{bmatrix} 2 & 2 \\ 2 & 0 \end{bmatrix}, \begin{bmatrix} 0 & 3 \\ 3 & 3 \end{bmatrix} \in M_{2\times 2} \right\}$$

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$$\{v_1=(1,2), v_2=(2,1), v_3=(-1,3)\in R^2\}$$

تمرين: بين هل المتجهات

تمثل اساس لـ  $R^2$  أم لا

$$\{v_{1} = (1,1,2,1), v_{2} = (-1,0,0,-5), v_{3} = (2,1,1,8) \in \mathbb{R}^{4}\}$$

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تمرين: عين ( التي تجعل المجموعة  $\{v_1=(\ 1,1,2),v_2=(1,-2\beta,-2\beta),v_3=(\ 2\beta,-1,-1)\in R^3\}$ -> IAI to 1 -2 B -1 2 -2 B + 0 [28-2-482] [-1+28-882] to 2B-2-4B2+1-2B+8B2 ‡0 482 -1 to 4 82 ± 1 p2 + 1 Bキキさ B= ±