🔫 التركيبات الخطية

ليكن 🗘 فضاء متجهات $v \in V$ $v_1, v_2, v_3, \dots \in V$ v_1, v_2, v_3, \dots نقول أن v تركيب خطي لـ أعداد حقيقية $\alpha_1, \alpha_2, \alpha_3, \dots$ إذا وجدت

V = 4, V, + 4, V2 + 4, V3 + ... طريقة حل السؤال

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

$$v_{1}, v_{2}, v_{3}$$

$$v_{1}, v_{2}, v_{3}$$

$$v_{2}, v_{3}$$

$$v_{3}, v_{4}, v_{5}, v_{7}$$

$$v_{1}, v_{2}, v_{3}$$

$$v_{2}, v_{3}$$

$$v_{3}, v_{4}, v_{5}, v_{7}$$

$$v_{1}, v_{2}, v_{3}$$

$$v_{2}, v_{3}$$

$$v_{3}, v_{4}, v_{5}, v_{7}$$

$$v_{1}, v_{2}, v_{3}$$

$$v_{2}, v_{3}, v_{4}, v_{7}, v_{7}$$

$$v_{1}, v_{2}, v_{3}$$

$$v_{2}, v_{3}, v_{4}, v_{7}, v_{7}$$

$$v_{1}, v_{2}, v_{3}$$

$$v_{2}, v_{3}, v_{7}, v_$$

$$\{v_1=(1,-1,0,),v_2=(0,1,1,),v_3=(3,-5,-2)\in R^3\}$$
 قبل v_1,v_2,v_3 وکان v_1,v_2,v_3 فبل v_2,v_3 فبل v_3 وکان v_4 فبل v_4 فبل v_5 وکان v_5 وکان

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

$$v_{1}, v_{2}, v_{3}$$

$$v_{1}, v_{2}, v_{3}$$

$$v_{2} = (2,1) \in \mathbb{R}^{2}$$

$$v_{1} = (2,1) \in \mathbb{R}^{2}$$

$$v_{2} = (2,1) \in \mathbb{R}^{2}$$

$$v_{3} = (2,1) \in \mathbb{R}^{2}$$

$$v_{1} = (2,1) \in \mathbb{R}^{2}$$

$$v_{2} = (2,1) \in \mathbb{R}^{2}$$

$$v_{3} = (2,1) \in \mathbb{R}^{2}$$

$$v_{1} = (2,1) \in \mathbb{R}^{2}$$

$$v_{2} = (2,1) \in \mathbb{R}^{2}$$

$$v_{3} = (2,1) \in \mathbb{R}^{2}$$

$$v_{1} = (2,1) \in \mathbb{R}^{2}$$

$$v_{2} = (2,1) \in \mathbb{R}^{2}$$

$$v_{3} = (2,1) \in \mathbb{R}^{2}$$

$$v_{1} = (2,1) \in \mathbb{R}^{2}$$

$$v_{2} = (2,1) \in \mathbb{R}^{2}$$

$$v_{3} = (2,1) \in \mathbb{R}^{2}$$

$$v_{4} = (2,1) \in \mathbb{R}^{2}$$

$$v_{3} = (2,1) \in \mathbb{R}^{2}$$

$$v_{4} = (2,1) \in \mathbb{R}^{2}$$

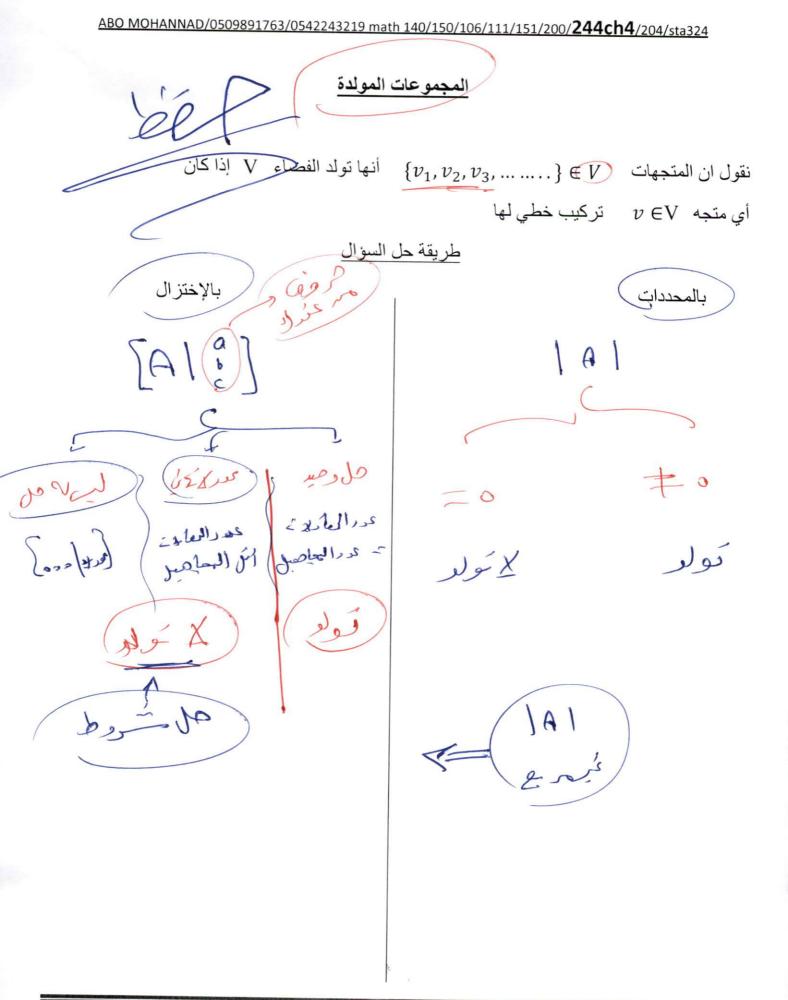
$$v_{3} = (2,1) \in \mathbb{R}^{2}$$

$$v_{4} = (2,1) \in \mathbb{R}^{2}$$

$$v_{4} = (2,1) \in \mathbb{R}^{2}$$

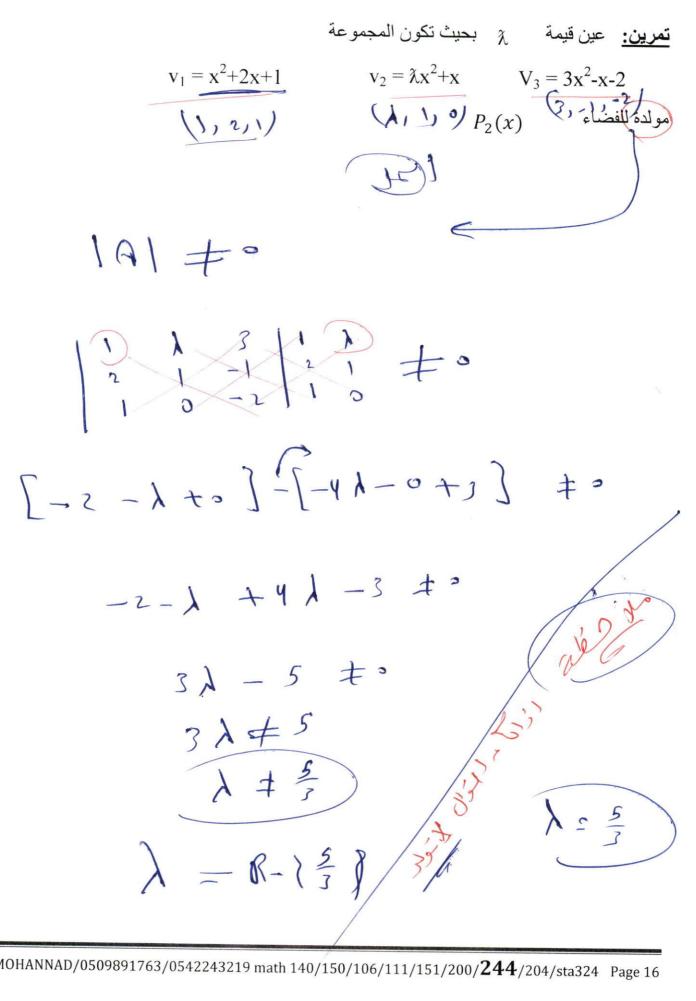
$$v_{5} = (2,1) \in \mathbb{R}^{2}$$

$$v_{7} = (2,1) \in \mathbb{R}^{2}$$

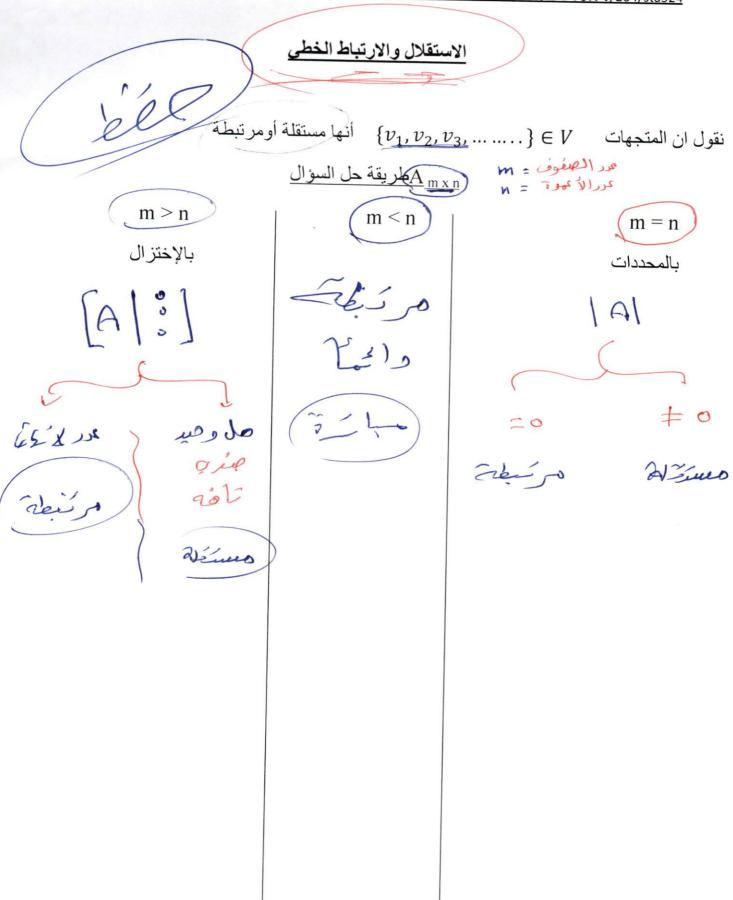


$$\{v_1=(1,2,-1),v_2=(-2,-1,3),v_3=(-1,1,2)\in R^3\}$$
 بين هل المتجهات R^3 أم لا R^3 أم لا





$$\{v_1 = (1,1,2,1), v_2 = (-1,0,0,-5), v_3 = (2,1,1,8) \in \mathbb{R}^4\}$$
 $\{v_1 = (1,1,2,1), v_2 = (-1,0,0,-5), v_3 = (2,1,1,8) \in \mathbb{R}^4\}$
 $\{v_1 = (1,1,2,1), v_2 = (-1,0,0,-5), v_3 = (2,1,1,8) \in \mathbb{R}^4\}$
 $\{v_1 = (1,1,2,1), v_2 = (-1,0,0,-5), v_3 = (2,1,1,8) \in \mathbb{R}^4\}$
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 $\{v_1 = (1,1,2,1), v_2 = (-1,0,0,-5), v_3 = (2,1,1,8) \in \mathbb{R}^4\}$
 $\{v_1 = (1,1,2,1), v_2 = (1,1,2,1), v_3 = (2,1,1,2,1), v_4 = (2,1,1,2,1), v_3 = (2,1,1,2,1), v_4 = (2,1,1,2,1), v_4$



$$\{v_1 = (1,2,4), v_2 = (2,1,3), v_3 = (4,-1,1) \in \mathbb{R}^3\}$$
 تمرین: بین هل المتجهات خطیا $\{v_1 = (1,2,4), v_2 = (2,1,3), v_3 = (4,-1,1) \in \mathbb{R}^3\}$ المرتبطة أم مستقلة خطیا $\{v_1 = (1,2,4), v_2 = (2,1,3), v_3 = (4,-1,1) \in \mathbb{R}^3\}$ مرتبطة أم مستقلة خطیا $\{v_1 = (1,2,4), v_2 = (2,1,3), v_3 = (4,-1,1) \in \mathbb{R}^3\}$ مرتبطة أم مستقلة خطیا $\{v_1 = (1,2,4), v_2 = (2,1,3), v_3 = (4,-1,1) \in \mathbb{R}^3\}$

$$\{v_1=(1,1),v_2=(0,1),v_3=(0,5)\in R^2\}$$
 right $v_1=(1,1),v_2=(0,1),v_3=(0,5)\in R^2\}$ right $v_2=(0,1),v_3=(0,5)\in R^2\}$ right $v_3=(0,1),v$

