	· (3,2)=30,+20, … (3,2)章. 亚色量 个 处 元壁 始.
	्र ८ <u>इ</u> ०। द्वस
	(1.0万) (1.1
	(3,2) = e,,e, w= 在对 ( ) = + old. ( e), (
	(W=(15, 15))   Emy.
	2
	$\begin{bmatrix} 1 & 0 & \frac{1}{\sqrt{2}} \\ 0 & 1 & \frac{1}{\sqrt{2}} \end{bmatrix} \begin{bmatrix} \frac{1}{\sqrt{2}} \\ 0 & \frac{1}{\sqrt{2}} \end{bmatrix} \begin{bmatrix} \frac{1}{\sqrt{2}} \\ 0$
	e,, e2, w = 1/12 e2.
* Def.	S= \(\frac{1}{V_1}, \frac{1}{V_2}, \ldots, \frac{1}{V_1} \cdot C \(V_1\): It nearly to dependent set.
	if no vector in S can be expressed
	as a linear combination of the others.
* Thm 4.4.1.	Linearly independent. $\Leftrightarrow k_1 V_1 + + k_r V_r = 0$ . for only $ c_1 = k_2 = = k_r = 0$ .
	DEPENS 20 10 10 10 10 10 10 10 10 10 10 10 10 10
	o 性en 大量 39、图内音.
	K. V. + to V2+ + Kov
	=> V1+16/k1, V2+ + EV/k1, Vr = 0 }
	V, = Kg/k, V2 + + Kg/k, Ur
* e×1	er, ez,, en is liveauly independent?
* 6 × 2	$l'_{1} = (1, -2, 8), l'_{2} = (5, 6, -1), l'_{3} = (3, 2, 1).$
	K. (1,-2,3) + K2(5,6,-1) + K3(3,2,1) = (0,0,0) of trivial solution or
	det -2 6 2 ?? .: det=0 linearly dependent.
1	det 1-2 6 2 177 det-2 1- 11

18914.	NO. 24, 08.0
	V .
* 6 × 3	V <sub>1</sub> = (1, 2, 2, -1).
	V2 = (4,9,9,-a). k, y + k = v = + (c = v = - 0.
	V3= (5,8,9,-5).
	<b>V</b> .
	2 9 8 16,
	1. 00
	2 9 9 k3 010
	RROF. 000
xex4	1, x, x2,, x" - linearly independent?
C, +,	· · · · · · · · · · · · · · · · · · ·
	10" cannot be expressed as linear combination of 1, 7, x"
× Thu 4.42.	(a) OES: linearly dep.
	(b) S = {V1, V2} V, =(CV3 : linearly dep.
	*) ky, + kv2+ + k+ vr = 0
	0
	6 1 <u>v</u> - ( <u>v</u> = 0
	A Tudop.
	+) / spaned plane.
	ात्र स्टा स्टा स्टा स्टा स्टा स्टा स्टा स्टा
* 6×6	$f(-\infty,\infty)$ $f_1=x$ $f_2=x$ $f_3=x$ $f_4=x$ $f_5=x$ $f_$
	fo=sinz. (. dep? x=ksinx. ) stel dep.
	But #x => directly indep,
	g= 51 2x. q g= 2g2 => linanty dep.
	go = Sin cosx  . di=292 ⇒ language.

** Atlan (4.6.3) $S = \{V_1, V_2, \dots, V_r\} \subset \{P_r^{(r)}\}$ ** The standard depth of the standard depth in the s		
r > n > S :		
$r > n \Rightarrow S: \text{ liverally dep} \qquad "iff $d$ $d$ $4$ \therefore $d$ $d$ $vecally dep $d$ $zo $zo $d$	*Thun 44.3.	S= { V, Va,, Vr } CP".
RELY Nonzero voice in FREF or REF are liverly indep.  **Expansion of functions.   **Expansion of function of		1
**Exp Nonzero voice in PREF or REF are liverily indep.  **Nonzero voice in PREF or REF are liverily indep.  **A livery Looks rower Exclusive that the state of t		
**Exp Nonzero voice in the or Ret are linearly indep.    1		<b>*</b> u↑ ↑ <del>2</del> . ✓. ↑
Nonzero voirs in the or Ret are linearly indep.  A Linear Indepotence of functions. $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 8\cos^2 x \end{cases} $ $ \Rightarrow f_1 = f_1(x),  f_2 = f_1(x),  f_3 = f_3(x) $ $ f_4 = f_1(x),  f_3 = f_3(x) $ $ \Rightarrow f_4 = f_1(x),  f_3 = f_3(x) $ $ \Rightarrow f_4 = f_3(x),  f_4 = f_1(x),  f_4 = f_3(x) $ $ \Rightarrow f_4 = f_1(x),  f_5 = f_6(x) $ $ \Rightarrow f_6 = f_1(x),  f_6(x),  f_6(x),  f_6(x) $ $ \Rightarrow f_6 = f_1(x),  f_6(x),  f_6(x) $ $ \Rightarrow f_6 = f_1(x),  f_6(x),  f_6(x),  f_6(x) $ $ \Rightarrow f_6 = f_1(x),  f_6(x),  f_6(x),  f_6(x) $ $ \Rightarrow f_8 = f_1(x),  f_8(x),  f_8($		+??
MEGG Nonzero vois in the or Ret are linearly indep.  A Linear Indepotence of functions. $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 8\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 5\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \sin^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \cos^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \cos^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_2 = \cos^2 x \\ f_3 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \cos^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \cos^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \cos^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \cos^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \cos^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \cos^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \cos^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \cos^2 x \\ f_2 = 6\cos^2 x \end{cases} $ $ \begin{cases} f_1 = \cos^2 x \\ f_2 = 6\cos^2 x$		X. X. Z
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# Linear Independence of Considerations.   \$\int_{1} = \frac{1}{3}(x).\$  When the first that th	*C47	Nonzero vous in AREF or REF are linearly indep.
# Cover Indepotence of Eurotions.   \$\int_{z=80c^2z}\$.   \$\int_{z=80c^2z}\$.   \$\int_{z=1}\$ \$\in		_
# Linear Independence of Eucations. $\begin{cases} f_1 = saix \\ f_2 = asc^2x. \longrightarrow slips \ (torsis size t);  f_1 + f_2 = 1. \Rightarrow s(f_1 + f_2) \\ \vdots \\ f_n = f_n(x). \end{cases}$ $x \text{ Def 2.} \qquad f_1 = f_n(x). \qquad 2 \text{ whose leave of } f_1, \dots, f_n.$ $f_2 = f_2(x).$ $\vdots \qquad W(x) = \begin{cases} f_1(x) & f_2(x) & \cdots & f_n(x). \\ \vdots & \vdots & \ddots & \vdots \\ f_n = f_n(x). \end{cases}$ $y \text{ We } x = \begin{cases} f_1(x) & f_2(x) & \cdots & f_n(x). \\ \vdots & \vdots & \ddots & \vdots \\ f_n = f_n(x). \end{cases}$ $x \text{ Excess } x \text{ indep: } x \text{ when } x \text{ indep: } x$		o / By all sero rowet Bicket > 5!!
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$	# Liveur Indepe	ndense of functions. ( I resist
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$		1.5.
$f_{\lambda} = f_{\lambda}(x).$ $W(x) = \begin{cases} f_{\lambda}(x) & f_{\lambda}(x) & \cdots & f_{\lambda}(x). \\ f_{\lambda}(x) & f_{\lambda}(x) & \cdots & f_{\lambda}(x) \end{cases}$ $f_{\lambda} = f_{\lambda}(x).$ $f_{\lambda}(x) & f_{\lambda}(x) & \cdots & f_{\lambda}(x) \\ \vdots & \vdots & \vdots & \vdots \\ f_{\lambda}(x) & f_{\lambda}(x) & \cdots & f_{\lambda}(x) \\ \vdots & \vdots & \vdots \\ f_{\lambda}(x) & f_{\lambda}(x) & \cdots & f_{\lambda}(x) \end{cases}$ $f_{\lambda} = f_{\lambda}(x).$		Lineunty depend.
$f_{2} = f_{0}(x).$ $W(x) = \begin{cases} f_{1}(x) & f_{2}(x) & \cdots & f_{n}(x). \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f_{n} = f_{n}(x). \end{cases}$ $\begin{cases} f_{n} = f_{n}(x). \\ \vdots & \vdots \\ f$	XDef 2.	C=f.(1), 1 Whransleign of f for
$W(x) = \begin{cases} f_{1}(x) & f_{2}(x) & \cdots & f_{K}(x). \\ f_{1}(x) & f_{2}(x) & \cdots & f_{K}(x). \end{cases} \times W(x) = 6 \text{ spinouly de}$ $f_{1}(x) & f_{2}(x) & \cdots & f_{K}(x) \\ \vdots & \vdots & \vdots & \vdots \\ f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \end{cases}$ $f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \\ f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \\ \vdots & \vdots & \vdots \\ f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \\ \vdots & \vdots & \vdots \\ f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \\ \vdots & \vdots & \vdots \\ f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \\ \vdots & \vdots & \vdots \\ f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \\ \vdots & \vdots & \vdots \\ f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \\ \vdots & \vdots & \vdots \\ f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \\ \vdots & \vdots & \vdots \\ f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \\ \vdots & \vdots & \vdots \\ f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \\ \vdots & \vdots & \vdots \\ f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \\ \vdots & \vdots & \vdots \\ f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \\ \vdots & \vdots & \vdots \\ f_{N}(x) & f_{N}(x) & \cdots & f_{N}(x) \\ \vdots & \vdots & \vdots \\ \vdots & \vdots & \vdots \\ \vdots & \vdots & \vdots \\ \vdots & \vdots &$		$f_{\lambda} = f_{\lambda}(x)$
$ \frac{f_n = f_n(x)}{f_n(x)} \cdot \frac{f_n(x)}{f_n(x)} - \frac{f_n(x)}{f_n(x)} = \frac{f_n(x)}{f_n(x)} \cdot \frac{f_n(x)}{f_n(x)} \cdot \frac{f_n(x)}{f_n(x)} = \frac{f_n(x)}{f_n(x)} \cdot \frac{f_n(x)}{f_n(x)}$		
$f_{n}^{(n-1)}(x) f_{n}^{(n-1)}(x) \dots f_{n}^{(n-n+1)}(x)$		
$f_{n}^{(n-1)}(x) f_{n}^{(n+1)} \dots f_{n}^{(n-n+1)}$ $f_{n} = x. \qquad f_{n} = x.$		
*exb $\int_{1} = x$ . Indep? $W(x) = \begin{vmatrix} x \\ \sin x \end{vmatrix} = x \cos x - \sin x$ .		
*exe $\int_{1} = x$ . $\int_{2} = \sin x$ . $\int_{3} \sin x = \int_{3} \cos x = \int_{3}$		+n (x) +n (x) - +n (x)
$f_2 = sin z. $ $f_2 = sin z. $ $f_3 = sin z. $ $f_4 = sin z. $ $f_5 = sin z. $ $f_6 = sin z. $ $f_7 = sin z.$	X O.J.e.	ρ
$+2 = 5 \text{ in } Z.$ $+0.$ $\Rightarrow \text{ indep.}$	* 67.6	$\frac{1}{2} = \chi$ . Indep? $\frac{\chi}{2} = \frac{\chi}{2} = $
=> indep.		to = sinz. ( ) (05x # 0.
		=> indep.