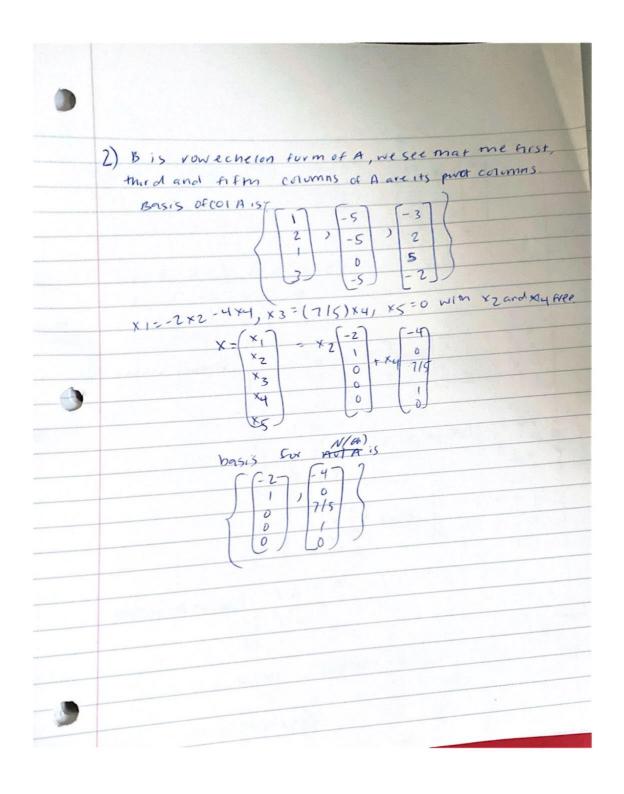
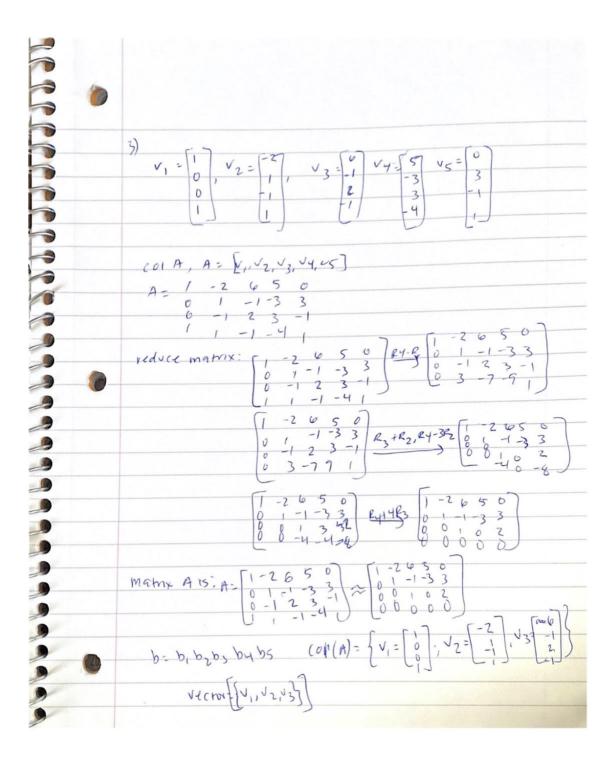
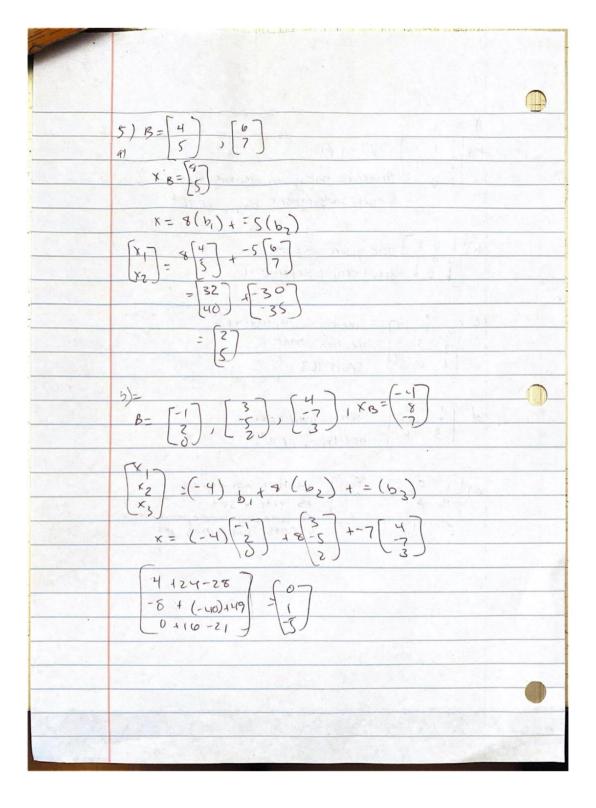
	a) [11]=>A1=(f0
	1 ) Therefore the given vectors are
	linearly independent basis of P3
	b) (100) the given rectors  o 0 dipe linearly dependent
	pod linearly dependent
	C (2 1-7) linearly independent
	1 2 4) span 123
	d [1 -4] Inearly Independent,
	[-3 6] not logsis of R3
	ello 3 0 Vecturs not a basis
	3 -1 4 -2 of Imegry independent vectors, but spans Rs
0	
d-1	

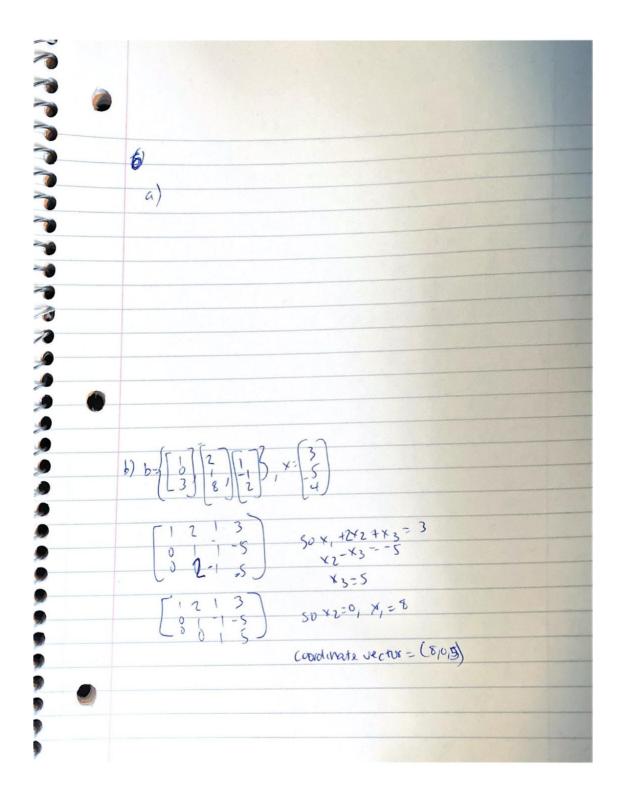




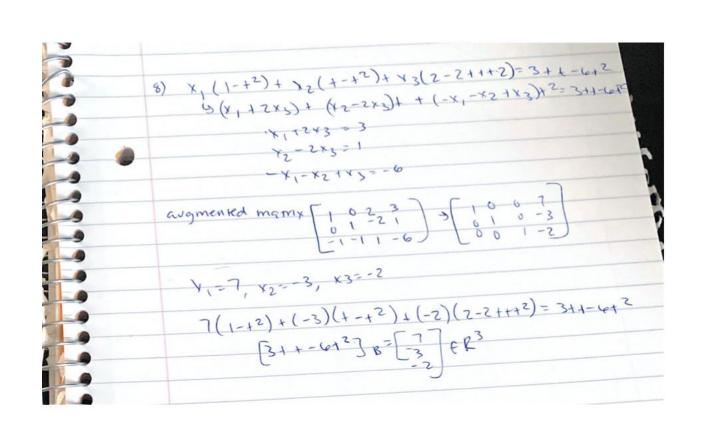
	4)
	a) Aneach Bin Rm, the equation has solven Ax= bis equivalent to the columns of A span Rm. The matrix A has pivot pesition in each raw: each bin Rm is a linear combo of column A.  b) (vivp) in Rn is linearly dependent if P> n the only decerence is pinsked of F. Therefore Svi, vol is linearly dependent,
	and cant be a basis.
•	

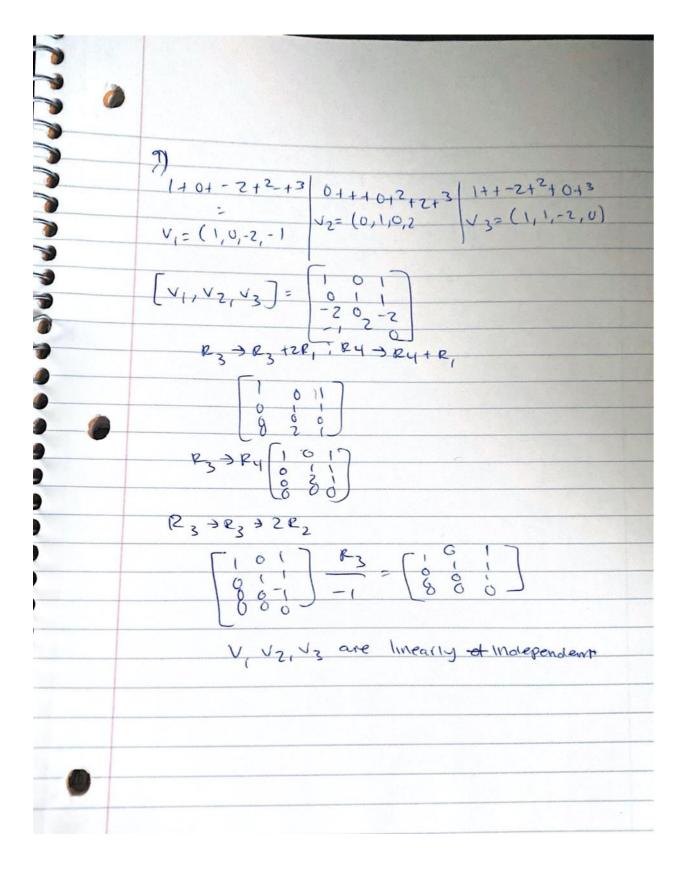
4 4 4	
	5)B=4 $5)7$
	5),[7]
	X B= [4]
	$X = 8(b_1) + = 5(b_2)$
	x=8(p1)+-2(p5)
	[X] = 8[4] + -5[6]
	x2 = 8 5 + (7)
	= 32 4-30
	(40) (-35)
	(2)
15506	Vectors and a second
	Sylan IE3
4420	
	THEREIN AND STREET THE PROPERTY OF THE PROPERT
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	-1
	7)
	the change - of - courdinates matrix trun is to the
	standard basis in R2 is Pr= +71.
	x = 4 6-12 -3.5 3 2 -7
	the change - of - cowdim tes matrix from 18 to the standard basis in 12 is p 18 = 5 7 1.  4 6-12 -3.5 3 25 -7  × 5 7 0 = 2.5 -2 0 5
-	





then me coording to vectors are (1,0,1), (2, -1, 3) (1,2)  (1 2 )  (0 -1 2 ) = -2+4+1=3(±0)  The polynomials $\{P_1(1), P_2(1), P_3(1)\}$ from a signific $P_2$ b) $\{P_1(1), P_2(1), P_3(1)\}$ = $\{X(1+12)+Y(2-1+3+2)+2(1+24-4+2)\}$ = $\{X+2Y+2\}+(-Y+2Z)+1^2(X+3Y-4Z)\}$ = $\{X+2Y+2\}+(-Y+2Z)+1^2(X+3Y-4Z)\}$		
4) For any polynomist in Pz is of the form $a_0 + a_1 + a_2$ then the coordinate vectors are $(1, a_1), 12, -1, 3$ $(1, 2, a_2)$ the polynomials $\{f_1, (1), f_2, (1), f_3, (1), (1), f_3, (1), (1), f_4, (1), f_5, (1), f_5, (1), f_6, (1), f_7, (1)$		(0)
the polynomials $\{P_{1}(1), P_{2}(1), P_{3}(1)\}$ from a sages for $P_{2}$ b) $\{P_{1}(1), P_{2}(1), P_{3}(1)\}$ = $\{(1+12)+y(2-1+3+2)+2(1+21-4+2)\}$ = $\{(1+2)+y(2-1+3+2)+4(-y+22)+1^{2}(x+3y-42)\}$ = $\{(1+2)+2+2+2+4(-y+22)+1^{2}(x+3y-42)\}$ = $\{(1+2)+2+2+2+4(-y+22)+1^{2}(x+3y-42)\}$ = $\{(1+2)+3+2+2+2+4(-y+22)+1^{2}(x+3y-42)\}$ $\{(1+2)+3+2+2+2+4(-y+22)+1^{2}(x+3y-42)\}$ $\{(1+2)+3+2+2+2+3+2$	E	from the coviding to vectors are (1,0,1), (2,-1,3) (1,2,-4)
b) $2p_1(+), p_2(+), p_3(+)$ = $\chi(1++2)+\chi(2-++3+2)+2(1+24-4+2)$ = $\chi+2\chi+2)++(-\chi+2z)+1^2(\chi+3\chi-4z)$ = $\chi+2\chi+2=q_0-\chi+2z=q_1$ and $\chi+3\chi-4z=q_2$ $\chi=\frac{1}{3}(-2q_1+11q_1+5q_2), \chi=\frac{1}{3}(2q_0-5q_1-2q_2-q_0)(q_0-q_0+q_2)$ $\chi=\frac{1}{3}(q_0-q_1-q_2)(1+2)+\frac{1}{3}(2q_0-5q_1-2q_2)(q_0-q_0+q_1-q_1-q_1-q_1-q_1-q_1-q_1-q_1-q_1-q_1-$		(1 3 -4) = -2144 (= 3(±0)
$= \frac{1}{3} \left( -290 + 1191 + 392 \right) = -3, \frac{1}{3} \left( 290 - 59 - 292 \right) = 1$ $= \frac{1}{3} \left( -290 + 1191 + 392 \right) + 2 \left( 1+24 - 4+22 \right) + \frac{1}{3} \left( 290 - 591 - 292 - 291 \right) = 1$ $= \frac{1}{3} \left( -290 + 1191 + 392 \right) = -3, \frac{1}{3} \left( 290 - 591 - 292 - 291 \right) = 1$ $= \frac{1}{3} \left( -290 + 1191 + 392 \right) = -3, \frac{1}{3} \left( 290 - 591 - 292 \right) = 1$		the polynomials {P, (+), P2(+), P3(+)} from a basis for P2
$ \begin{array}{c} 3 \left( -290 + 1181 + 382 \right) = -3, \frac{1}{3} \left( 29 - 59 - 292 \right) = 1 \\ = \left( 1 + 42 \right) + 4 \left( 2 + 3 + 3 \right) + 2 \left( 1 + 2 + 2 + 3 + 2 \right) \\ = \left( 2 + 24 + 2 \right) + 4 \left( 2 + 3 + 2 \right) + 3 \left( 28 - 28 - 282 \right) \\ = \left( 2 + 24 + 2 \right) + 2 \left( 2 + 2 \right) + 3 \left( 28 - 28 - 282 \right) \\ = \left( 2 + 24 + 2 \right) + 2 \left( 2 + 2 \right) + 3 \left( 28 - 282 \right) + 3 \left( 28 - 282 \right) \\ = \left( 2 + 24 + 2 \right) + 2 \left( 2 + 2 \right) + 3 \left( 28 - 282 \right) + 2 \left( 28 - 282 \right) \\ = \left( 2 + 24 + 2 \right) + 2 \left( 2 + 2 \right) + 3 \left( 28 - 282 \right) + 2 \left( 28 - 282 \right) \\ = \left( 2 + 24 + 2 \right) + 2 \left( 2 + 2 \right) + 2 \left( 2 + 2 \right) + 3 \left( 28 - 282 \right) \\ = \left( 2 + 24 + 2 \right) + 2 \left( 2 + 2 \right) \\ = \left( 2 + 24 + 2 \right) + 2 \left( 2 + 2 \right) \\ = \left( 2 + 24 + 2 \right) + 2 \left( 2 + 2 \right) \\ = \left( 2 + 24 + 2 \right) + 2 \left( 2 + 2 \right) \\ = \left( 2 + 2 + 2 \right) + 2 \left( 2 + 2 \right) + 2 \left($		b) {p, (+), p, (+), p, (+)}
$= \frac{1}{3} \left( -2q_0 + 11q_1 + 3q_2 \right) = -3, \frac{1}{3} \left( 2q_0 - 5q_1 - 2q_2 \right) = 1$ $= \frac{1}{3} \left( -2q_0 + 11q_1 + 3q_2 \right) = -3, \frac{1}{3} \left( 2q_0 - 5q_1 - 2q_2 \right) = 1$ $= \frac{1}{3} \left( -2q_0 + 11q_1 + 3q_2 \right) = -3, \frac{1}{3} \left( 2q_0 - 5q_1 - 2q_2 \right) = 1$		= X(1++2)+V(2-++3+2)+Z(1+24-4+2)
Coordinate vector [9] = -3, \$(29-59-292)=1		= (x+51+5)++(-1+55)+15(x+31-45)
Courdinate Jector (9) = -3 (29-59-292)=1		- x+2415 = 601-1+55= 21 and x+31-45= 25
(ourdinate Jector (9) = -3/2 (29-59-292)=1		x= \frac{1}{3} (-2964119, 1592), x= \frac{1}{3} (290-50, -20290002=(\frac{1}{3})(20-9-1)
(coordinate vector [9] = -3 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 /		9019195= 3 (-50+11917505) (1412)+3 (29-501292)(2-4)
3 (-290+119,1392) =-3, 3(29,-59,-292)=1		+ 3 (00-0,-02) (1+21-4+2
3 (-290+11914992) =-3, 3(29-59-292)=1		( )
3 (20-21-25)=5		3 (-290+119,1992) =-3, 3(29-59-292)=1
	52	3 (20-11-25)=5
90=1, 9,-3, 92=-8 9= 1+3+-8-12		90=1, 9,-3, 92=-8 q= 1+3+-8-12