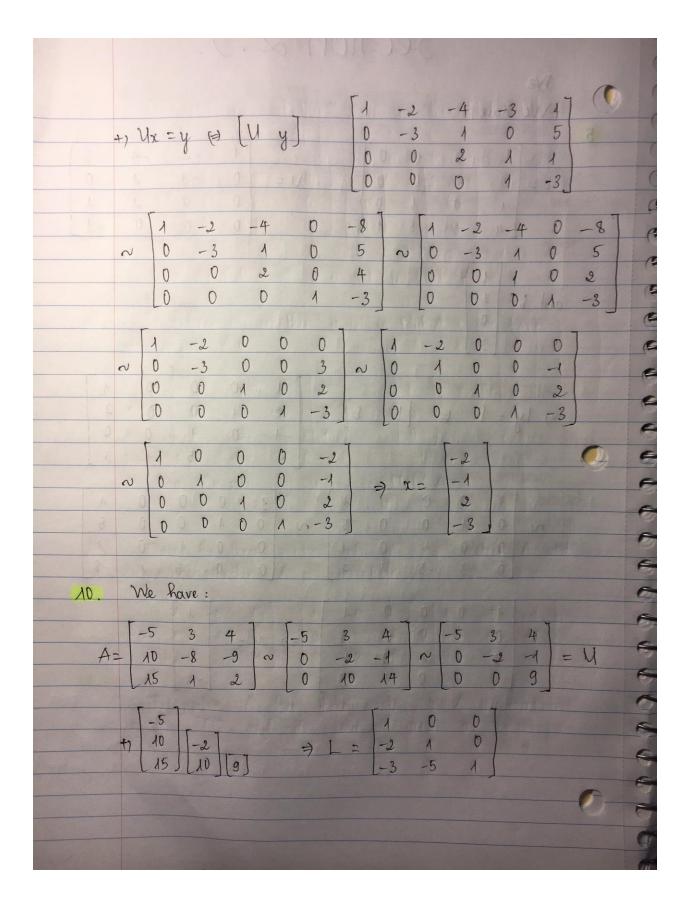
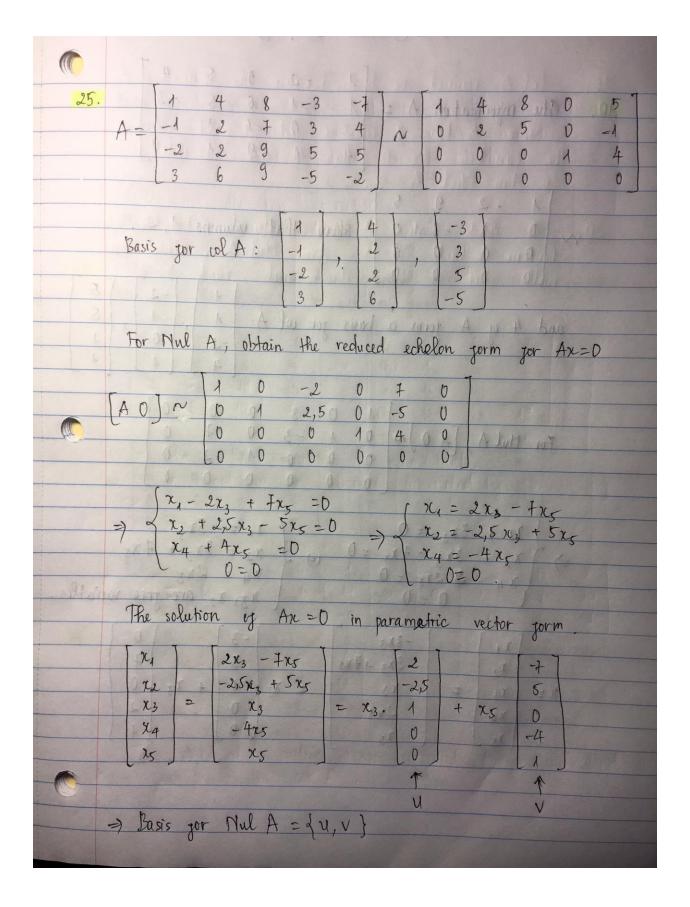
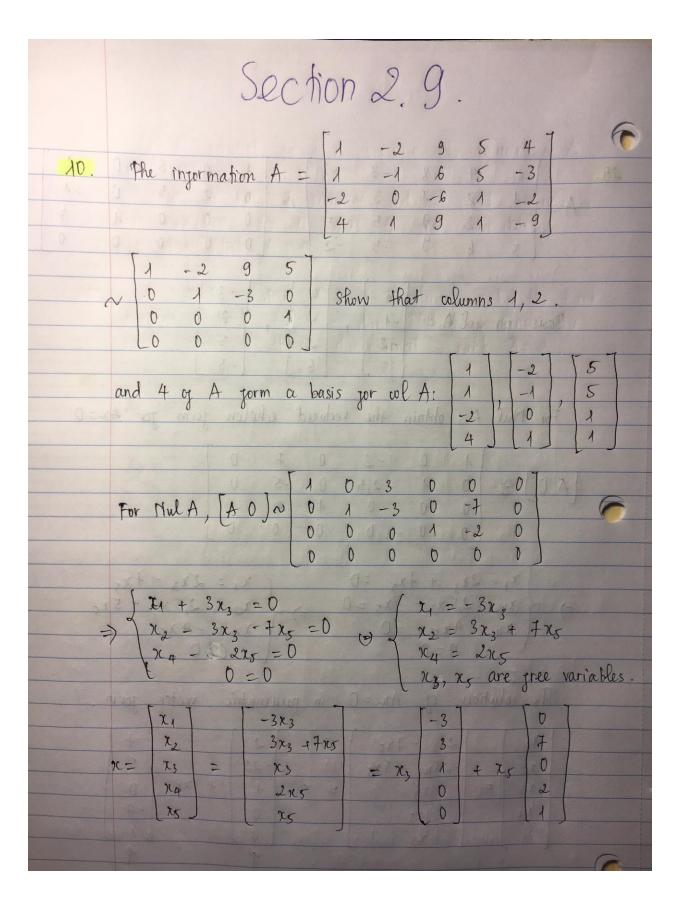
	Section 2.5.
	We have:
5	the state of the s
	1 0 0 0 1 -2 -4 -3
	L= 2 1 0 0
	-1 0 1 0 0 2 1
8-	<u>-4 3 1-5 1 0 0 0 1 </u>
	10 10 15 10 15 10 15 10 0
Se	0 10 10 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1
8-	and b= 40 0 2 0 0
	D
	0 0 0 0 0 0 0 0
	1- 1 0 1 0 n 1 0 0 0 0 0 0
	2 3 0 0 0 0 0 0 1
	+) ly = b = [L b] = 2 1 0 0 7
	-1 0 1 0 0
	4 3 45 1 3
	K- S- PRODUCT BOOK OF THE BOOK OF THE
	100001100001
	N 0 1 0 0 5 N 00 1 0 0 0 5
	0 0 1 0 1 0 0 1 0 1
	10001
N	
	O DESCRIPTION OF THE BUT OF THE B
	3 11 12 13



	Section 2.8.									
	The vector is in the subspace by									
6.	The vector u is in the subspace or Rt generated by									
	d v1, V2, V3 y is and only is the vector equation									
	The vector u is in the subspace of R ⁺ generated by $\sqrt{v_1, v_2, v_3}$ if and only if the vector equation $\sqrt{v_1, v_2, v_3}$ is consistent.									
	I MN I I M NO I I M NO									
	We have the row operations:									
	1 4 5 -47									
	$\begin{bmatrix} v_1 & v_2 & v_3 & v_4 \end{bmatrix} \sim \begin{bmatrix} 1 & 4 & 5 & -4 \\ +2 & -7 & -8 & 10 \\ 4 & 9 & 6 & -7 \end{bmatrix}$									
	4 9 6 -7									
	110 34 A July 1-3 11 Follows 5 155 Hale at									
) to the state of									
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$									
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$									
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$									
	=> The vector requation is inconsistant.									
	=) u is not in the subspace generated by {v1, v2, v3 }									
8.	We have: The return milk of the									
	-3 -2 0 1 1-3 -2 0 1 T									
	$(AP) = 0$ 2 -6 14 \sim 0 2 -6 14 \sim 0 3 3 -9 \sim 0 -1 3 -1									
	-3 -2 0 1									
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									
	n n a n									
	the Soul (V on Me 200 min) The body TFTE off and									
	The augmented matrix above consponds to a consistend									
-	-) p is in col A.									

	3. Sol Hothods
9.	To determine whether p is in the Nul A, we
MI	nave to compute An
9	$Ap = \begin{bmatrix} 2 & -3 & -4 & 6 \\ -8 & 8 & 6 & -10 \\ 6 & -1 & -1 & 11 \end{bmatrix} = \begin{bmatrix} -62 \\ 29 \end{bmatrix}$
	2 -3 -4 6 -2
	Ap = -8 8 6 $ -10 = -62$
	[6 - 7 - 7] [11] [29]
	The state of the s
	Since $Ap \neq 0 \Rightarrow p$ is not in Nul A.
10.	To determine whether u is in Nul A, we have
	to compute Au.
	$Au = \begin{bmatrix} -3 & -2 & 0 \\ 0 & 2 & -6 \\ 3 & 3 & 3 \end{bmatrix} \begin{bmatrix} -2 & 7 & 0 \\ 3 & 7 & 0 \\ 4 & 0 & 0 \end{bmatrix}$
	60 30 30 1
	ENSEMBLE OF THE PROPERTY OF STREET
1	Sina Au=D => u is in Nul A.
14.0	CIVE in patential months of all tards of the
18.	Place the three vectors into a 3×3 matrix A and
	determine whether A is invertible.
h h	5
	A= 1 -1 0 N 0 4 -7 N 0 4 -4
	$\begin{bmatrix} -2 & 2 & -5 \end{bmatrix} \begin{bmatrix} 0 & -8 & 9 \end{bmatrix} \begin{bmatrix} 0 & 0 & -5 \end{bmatrix}$
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	The matrix A has three pivots, so A is invertible
	by the IT9T and its columns form a basis for
- Knd xun	in a starper system vistage between our of
	A Jos of a g





	Basis yor Mul A: 3, 7
1/40	From this, dim Col A = 3 and dim Nul A = 2.0
	and and and and and
13.	The 4 vectors span the column space It of a matrix that can be reduced to echelon form:
	$\begin{bmatrix} 1 & -3 & 2 & -4 \\ -3 & 9 & -1 & 5 \\ 2 & -6 & 4 & -3 \\ -4 & 12 & 2 & 7 \end{bmatrix} \begin{bmatrix} 1 & -3 & 2 & -4 \\ 0 & 0 & 5 & -7 \\ 0 & 0 & 0 & 5 \\ 0 & 0 & 10 & -9 \end{bmatrix}$
	[-4 12 2 7] [0 0 10 -9]
THE THE	1 -3 2 -4 1 1 -3 2 -4
	N 0 0 5 - 7 N 0 0 5 - 7
	0 0 0 5 0 0 0 5
	0 0 0 5 0 0 0 0
	Columns 1, 3 and 4 g the original matrix form a
	basis gor H, so dim H = 3.
15.	Col A = R ³ , because A has a pivot in each row and so the volumn of A span R ³ . Nul A winnot equal R ² , because Nul A is a subspace of & R ⁵ . It is true, however, that Nul A is two-dimensional
	and so the column of A span K. Nul A annot
	The formation of the first of t
	Reason, the coupling Ar - O has two dimensional
	Reason: the equation $Ax=0$ has two free variables, because A has 5 columns and only three of them
	are pivot columns.
(MIC)	

16.	Col; has Since the eco	A car 4 enf 2 A quation m Nu	flas Ax	F c=0	column	s and	se the 3 yree	colu pivot varia	nn g wlur bles.	A nns,
	A Theorem	, ra	nk	Az	5 -	dim	Nul A	, 5	ince	the
Chair	null	space	is.	three	- din	ensiona	el, r	ank.	A=2	81.
	4		2	, ,						
	+-	7	CV.	CHE		A		E TH		
	2	()	0	0	-0		18 30	E V	4	
	8-	11.	0	1		9	1	13/1	1	
				- Marie				ON IN		6
	+-	4.76	8-			#	11-2-11		N	-
	I Po	7	0	0	Sal	H	3	0	1	
	3-3-	1.0	0	0		7	0	0	0	
	1 0	0)	0		44	0,00	0	9	
4-1-1-1-1	Cal-	200	0		24					
-	(410) X	TIE BULL	Ling	(1)	4 1	# 5	il E.	1 391	anda)	
				6	111	chilo	w ,)	1 197	cieu	1
461	dogs w	Facial	0	and the	1	because	1	Take Indian		
èg à	INDE A	July			PA	100 11	motor		Ja) 12 ku	34.
	ung p	gedan.	No.							
- (3)	with the said	Ovp.								
	CONTRACTOR OF		a long	13		Tittonb	w 31/4		1018	
		15111	W		11/1/		201	A 1	10 114	1