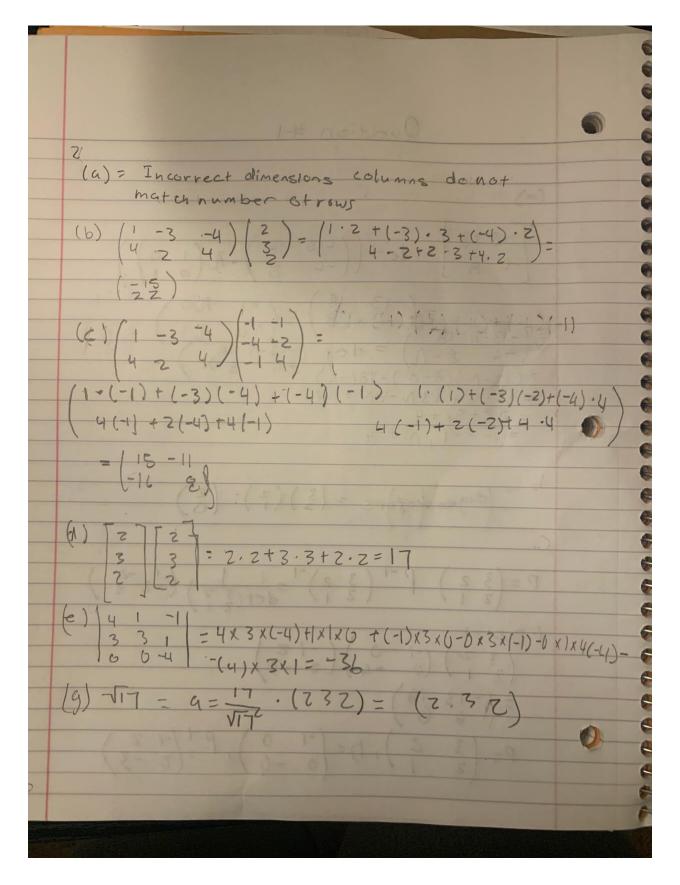
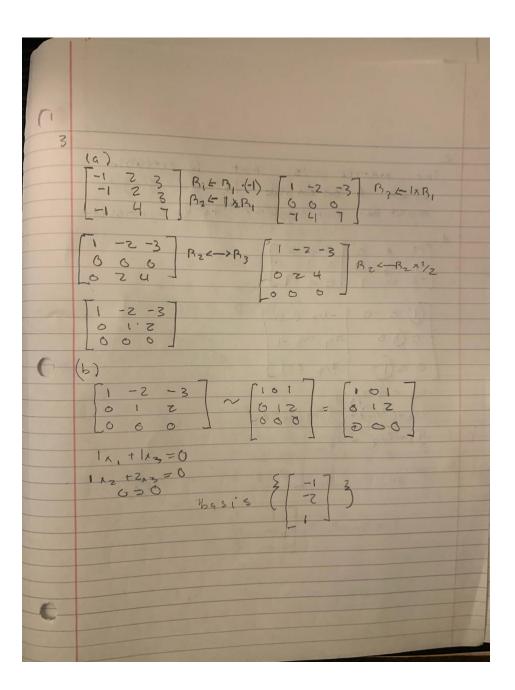
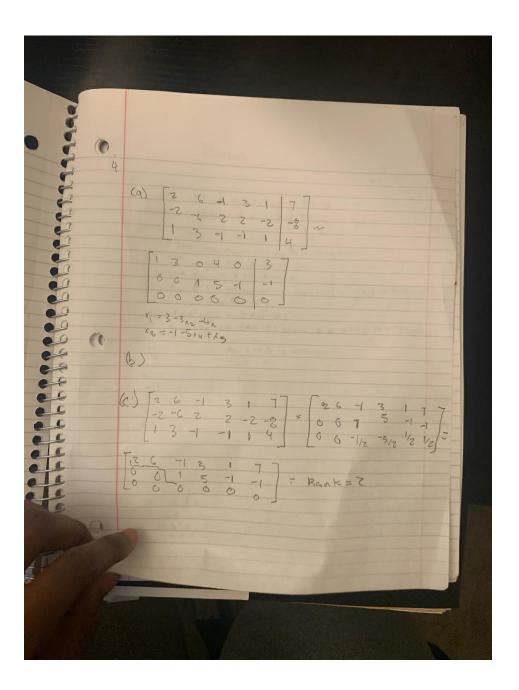
```
0
                                                                            Question #1
                       (a)
                                                                     = det ((-13 18)-2 (1 0))
                     = \begin{pmatrix} -13 & 18 \\ -6 & 8 \end{pmatrix} - \begin{pmatrix} N1 & N0 \\ N0 & R1 \end{pmatrix}
= \begin{pmatrix} -13-N & 18 \\ -6 & 8-N \end{pmatrix} = \det \begin{pmatrix} -13-N & 18 \\ -6 & 8-N \end{pmatrix}
= \begin{pmatrix} (13-N)(8-N)-18(-6) \\ -6 & 8-N \end{pmatrix}
= \frac{13\cdot8}{13N-8N+NN}
= \frac{13\cdot8}{13N-8N+NN}
= \frac{13\cdot8}{13N-8N+NN}
= \frac{13\cdot8}{13N-8N+NN}
= \frac{13\cdot8}{13N-8N+NN}
                                       leigen victors = (3)(2): (2)
                           P = \begin{pmatrix} 3 & 2 \\ 2 & 1 \end{pmatrix} \qquad P^{-1} \begin{pmatrix} 3 & 2 \\ 2 & 1 \end{pmatrix}^{-1} = \frac{1}{\det \begin{pmatrix} \frac{3}{2} & \frac{7}{2} \end{pmatrix}} \begin{pmatrix} -\frac{2}{2} & \frac{2}{3} \end{pmatrix}
     6
                                      P = \begin{pmatrix} 3 & 2 \\ 2 & 1 \end{pmatrix}, D = \begin{pmatrix} -1 & 0 \\ 0 & -4 \end{pmatrix}, P = \begin{pmatrix} -1 & 2 \\ 2 & -3 \end{pmatrix}
```





The matrix is not invertible from A because it is singular must be non singular to be hvertighte de [-3 0 0 0 0 0 0] -1 -3 3 6 1 -2 0 1 0 6 9 (1) 0 0 -1/3 0 0 7 0 0 0 74 -1/3 -1 10 0 (1) 2/3 6-1 11 = 1-1/3/d 1 + (-1/5) d 2 - 1 d 3 11 = 2/3 - 1 d 3



ME	
0	D
	Bonus
	(a)
	given that & w, we, w, 3 is
	orthogona basis for wand & VI, V2. Vajjis
	also arthogenal basis for w
	since Ewil we was in was orthogonal
	Since City was a consist of the gonal
	since ex; 1 y >= 0 for 1=j
	verier & & w, , was wp, v, va) vat is orthogonal
	(W, 1 W, 7 = 0 tor i +)
	since (Vilys = 0 for it)
-	(b) and kull 1 vg >= 0 for its hance the given is orthogonal
0	from Boin+(a) the set B is orthogonal
	< wi, u1 > = 0 for int).
	since evi vy >=0 lorit
	and < w, - y, = 0 for i +)
	LB, a, > = a, w, rag w, tr + an w, +b, V, +be vet - sny therefore => spans pn
	(6)
	Swire we work, & VIV2 Vat is orthogonal
	but Every - Grangonal Set 15 linearly letter
•	heart it is breis for W so dim were
9	since Ewille in the sasis for where dry
	hence the set & william Wp 14102 - 164 3
9 (10 bys 5 tot WEW
100	wt dia wispta
20	
9	
7	