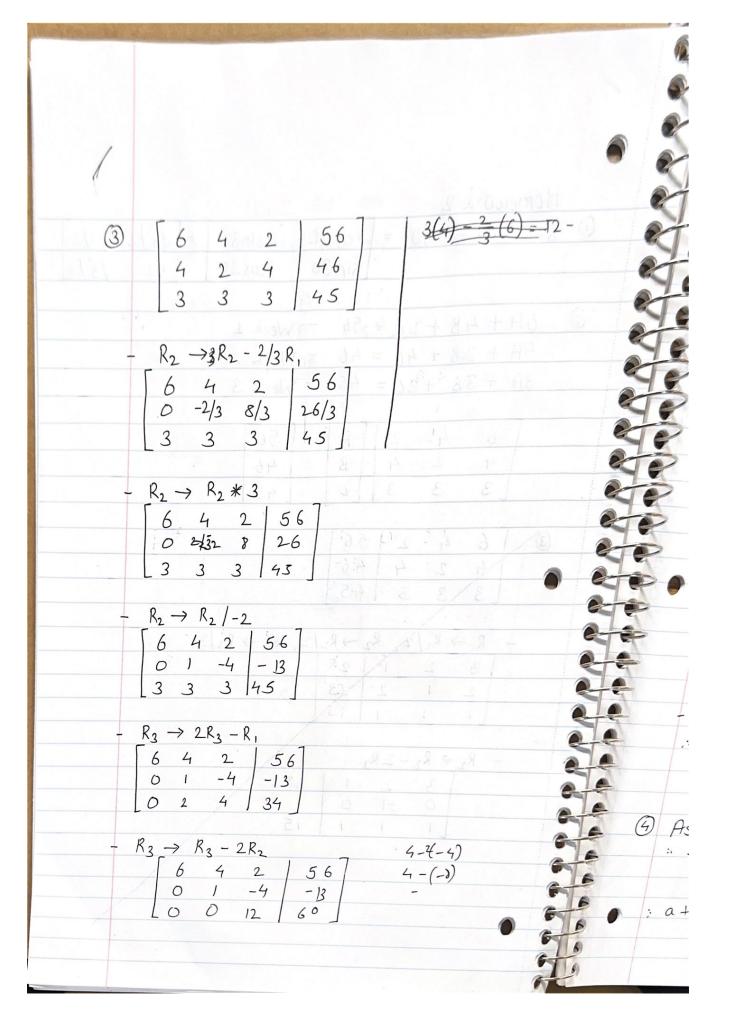
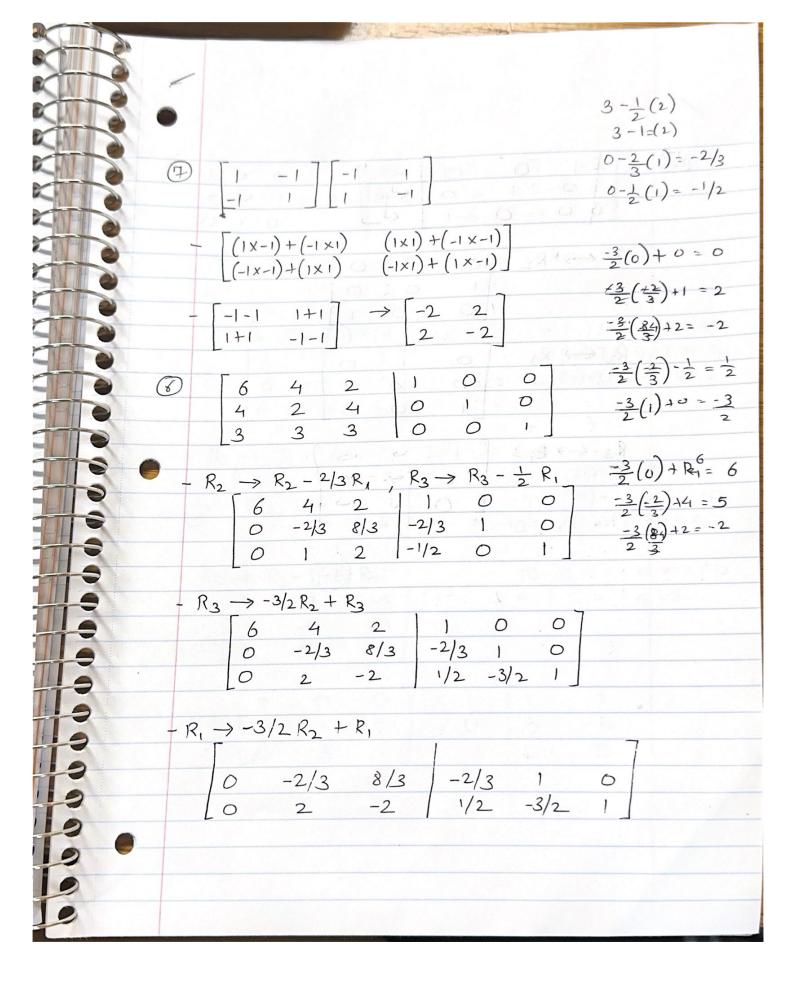
Homework 2 Rotation @ 30° = $\begin{bmatrix} \cos 30 & -\sin 30 \end{bmatrix} = \begin{bmatrix} \sqrt{3}/2 & -1/2 \\ \sin 30 & \cos 30 \end{bmatrix} = \frac{1}{2} \begin{bmatrix} \sqrt{3}/2 & -1/2 \\ \sqrt{3}/2 & -1/2 \end{bmatrix}$ 6A+4B+2C = 56 - Week 1 3 4A + 28 + 4C = 46 - Week 2 3A + 3B + 3C = 45 - Week 3 568 46 B 2 4 4 45 3 3 6 4 2 56 3 2 4 46 3 45 $R_1 \rightarrow R_1/2$ $R_2 \rightarrow R_2/2$, $R_3 \rightarrow R_3/3$ 1 28 3 2 2 $R_2 \rightarrow R_2 - 2R_3$ 3 2 1 28 0 0 15



-	$R_3 \rightarrow R_3/12$ 0 0 1 5 4 6 1 7 6
	$\begin{bmatrix} 6 & 4 & 2 & & 56 \\ 0 & 1 & -4 & & -13 \\ 0 & 0 & 1 & & 5 \end{bmatrix}$ $\frac{8}{12} = \frac{2}{3}$ $\frac{11254}{1263}$
	0 1 -4 -13 +125 28 +263
	1263
	$R_1 \rightarrow R_1 * R_2 $
	$\begin{bmatrix} 6 & 12 & 8 & 4 & 112 \end{bmatrix}$
	D 1 - 4 -12
	$\begin{bmatrix} 0 & 0 & 1 & 5 \\ 0 & 0 & 1 & 5 \end{bmatrix} \qquad \frac{1}{3} - \frac{4}{3} = \frac{-3}{3} = -1$
	$R_1 \to R_1/12$ $\frac{28}{3} + \frac{(-13)}{3}$ $\frac{15}{3} = 3$
	$\begin{bmatrix} 1 & 2/3 & 1/3 & 28/3 \end{bmatrix}$
	0 10 -4 -13 2/8 215 0
	0 0 0 0 5 /
+	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
	8 2 1 28 1 1 -1 5 0 1 -4 -13 0 1 -4 -13
	00150005
	0 12 -1/2 0/21/3 662
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
	[00][5]
	0 [-5]
4	As $[c=5]$: $1b-4c=-13 \rightarrow b-4(5)=-13$
	76-20=-3



3 -7 -2 -3 5 1 6 -4 0 3) LU decomposition of $L = \begin{bmatrix} 3 & -7 & 7 - 2 \\ -3 & 5 & 1 \\ 6 & -4 & 0 \end{bmatrix}$ $-R_{2} \rightarrow R_{2} - (-1)R_{1} \qquad -3 - (-1)3 = -3 + 3 = 0$ -3 - (-1)3 = -3 + 3 = 0 -3 - (-1) - 7 = 5 - 7 = -2 $-0 \quad -2 \quad -1$ -1 - (-1) - 2 = 1 - 2 = -1-4-2(-7)=-4+14=10 0-2(-2)=0+4=4 10-3(-2)=10710=0

