12 1 3 - 2 1
1. จงแสดงวิธีทำและหาดีเทอร์มิแนนต์ของ $A = \begin{pmatrix} 2 & 0 & 1 & 3 & -2 \\ -2 & 1 & 3 & 2 & -1 \\ 1 & 0 & -1 & 2 & 3 \\ 3 & 1 & 2 & 4 & -3 \\ 1 & -1 & 3 & 2 & 0 \end{pmatrix} \qquad = \begin{pmatrix} 2 & 7 & 3 & 2 \\ 1 & -1 & 2 & 3 \\ 3 & 2 & 4 & -3 \\ 1 & 3 & 2 & 0 \end{pmatrix} = C_{41} + 3C_{42} + 2C_{43}$
$\begin{bmatrix} 3 & 1 & 2 & 4 & -3 \end{bmatrix}$ = $\begin{bmatrix} 2 & 4 & 3 \\ 2 & 4 & 3 \end{bmatrix}$
$= \begin{vmatrix} 1 & 3 & -2 \\ - & -1 & 2 & 2 \end{vmatrix} + 3 \begin{vmatrix} 2 & 3 & -2 \\ 1 & 2 & 3 \end{vmatrix}$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
$-2 \begin{pmatrix} 2 & 1 & -2 & 1 \\ 2 & 1 & -2 & 1 \end{pmatrix}$
Answer = $161 \#$ = $-7+3(4)-2(-4)$ = $-7+12+87$ = $12 + 3 - 2 = 13$
=-1+12+87
$\begin{bmatrix} 2 & 1 & 3 & 2 \\ -2 & 3 & 2 & -1 \end{bmatrix}$ = 13
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
, •
$= C_{41} + 3 C_{42} + 2 C_{43}$
$= C_{41} + 3 C_{42} + 2 C_{43}$ $= -\begin{vmatrix} 1 & 3 & -2 &   & + 3 &   & 2 & 3 & -2 &   & -2 &   & 2 &   &   &   &   &   &   &   & $
[-[23] 1123   -[1-13]
- 20 10(10) 0(00)
= 32 +3(43)-2(23)
· 32+ 129-46
= 115
/ = 12 1 3 -2 I
$\frac{C_{52}}{2_{32}} = \frac{1}{2_{32}} = \frac{3}{2_{32}} = \frac{2}{1_{32}}$
$\begin{vmatrix} 1 & -1 & 2 & 3 \\ 3 & 0 & 2 & 3 \end{vmatrix}$
= C <sub>12</sub> + 3C <sub>22</sub> - C <sub>32</sub> + 2C <sub>42</sub>
$= \frac{12+3}{22} - \frac{23+2}{242}$
$\begin{vmatrix} 1 & -1 & 2 & 3 \\ 3 & 2 & 4 & -3 \end{vmatrix}$ $= \begin{pmatrix} 1_2 + 3 & 2_2 & - & 3_2 + 2 & 4_2 \\ -1_2 + 3 & 2_2 & - & 3_2 + 2 & 4_2 \\ -1_2 + 3 & 1_2 & 3_2 & 1_3 & 1_4 \\ 1 & 2 & 3_1 & 3_1 & 3_2 & 3_3 & 4_3 \\ 3 & 4 & -3_1 & 3_1 & 3_2 & 3_3 & 4_3 & 3_1 \end{vmatrix}$
=-62+3(4)+3+2(43)=-62+12-3+86
= 33