1- a- $\begin{bmatrix} 2 & 3 \\ 1 & 5 \end{bmatrix}$ $2.5=10$ $1.3=3$ $10-3=7$

prin

b- $\begin{bmatrix} 2 & 4 \\ 3 & 6 \end{bmatrix}$ $-2.6=-12$ $-4.3=-12$ $-12-(-12)=0$

c- $\begin{bmatrix} 3 & -1 & 1 \\ 2 & 1 & -1 \\ 1 & 4 & -2 \end{bmatrix}$

3 -1 1 3 -1
2 1 1 2 1
1 4 2 1 4

$3.1.-2=-6$
$-1.-1.1=1$
$1.2.4=8$ → 3

$1.1.-1=1$
$4.-1.3=-12$
$-2.2.-1=4$ → -7

$3-(-7)=10$

id- $\begin{bmatrix} 3 & 2 & -1 \\ 2 & 3 & 1 \\ 1 & 1 & 4 \end{bmatrix}$

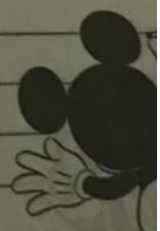
3 2 1 3 2
2 3 1 2 3
1 1 4 4 1

$3.3.4=36$
$2.1.1=2$
$-1.2.1=-2$ → 36

$1.3.-1=-3$
$1.1.3=3$
$4.2.2=16$ → 16

$36-16=20$

2- $\begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{bmatrix}$ $\begin{bmatrix} -3 & 0 & 0 \\ 0 & -3 & 0 \\ 0 & 0 & -3 \end{bmatrix}$



$a_{11} = -3$
$a_{12} = 0$
$a_{13} = 0$
$a_{21} = 0$
$a_{22} = -3$
$a_{23} = 0$
$a_{31} = 0$
$a_{32} = 0$
$a_{33} = -3$

$-3.0.0 \quad -3\ 0$
$0\ -3\ 0\ 0\ -3$
$0\ 0\ -3\ 0\ 0$
$0.-3.0=0$
$0.0.-3=0$
$-3.0.0=0$

$-3.-3.-3=-27$
$0\ 0\ 0=0$
$0\ 0\ 0=0$

-27

$3-x \quad 1 \quad x$
$3 \quad x \quad 4$
$1 \quad 3 \quad 3$
$x \quad 1 \quad x$
$3 \quad x \quad 4$

x^2
$12x$
9
$3x^2$
$3x$
4

$(3x^2+9x+4)-(x^2+12x+9)$
$2x^2-3x-5=-3$
$2x^2-3x-5+3=0$
$2x^2-3x-2=0$

$\Delta = b^2-4ac$
$\Delta = (-3)^2-4.2.(-2)$
$\Delta = 9+16$
$\Delta = 25$

$x = \frac{-(-3) \pm \sqrt{25}}{2.2}$

$x' = \frac{3+5}{4} = \frac{8}{4} = 2$

$x'' = \frac{3-5}{4} = \frac{-2}{4} = -\frac{1}{2}$

$\{-1/2; 2\}$

4-

5- $a = \begin{bmatrix} -1 & -4 \\ 1 & -2 \\ 3 & 0 \end{bmatrix}$ $b = \begin{bmatrix} 0 & 1 & 2 \\ -1 & 0 & 2 \end{bmatrix}$

$a.b = \begin{bmatrix} 4 & -1 & -6 \\ 2 & 1 & 0 \\ 0 & 3 & 6 \end{bmatrix}$ → det. $(a.b) = 0$

6- $A = \begin{bmatrix} 2 & 0 & -1 \\ -1 & 1 & 0 \end{bmatrix}$ $B = \begin{bmatrix} 1 & -1 \\ -1 & 1 \\ 0 & 2 \end{bmatrix}$

X

$AB = \begin{bmatrix} 2+0+0 & -2+0-2 \\ (-1)-1+0 & 1+1+0 \end{bmatrix}$

$AB = \begin{bmatrix} 2 & -4 \\ -2 & 2 \end{bmatrix}$ det $AB = 4 - 8$

Det $AB = -4$