383 1-5 (by hand), 9 (calc), 57, 58, WPP 1-3

1. Find AB & BA if Possible

$A=\begin{bmatrix}8 & 1\end{bmatrix}$ $B=\begin{bmatrix}3 & -7\\ -5 & 2\end{bmatrix}$ AB 1×2 2×2 BA NP 2×2 1×2

1×2

$AB=\begin{bmatrix}24-5 & -56+2\end{bmatrix}=\begin{bmatrix}19 & -54\end{bmatrix}$

2. $A=\begin{bmatrix}2 & 9\\ -7 & 3\end{bmatrix}$ $B=\begin{bmatrix}6 & -4\\ 0 & 3\end{bmatrix}$

$AB=\begin{bmatrix}12+0 & -8+27\\ 0-42 & +28+9\end{bmatrix}=\begin{bmatrix}12 & 19\\ -42 & 37\end{bmatrix}$

$BA=\begin{bmatrix}12+28 & 54-12\\ 0+21 & 0+9\end{bmatrix}=\begin{bmatrix}40 & 42\\ 21 & 9\end{bmatrix}$

3. $A=\begin{bmatrix}3 & -5\end{bmatrix}$ $B=\begin{bmatrix}4 & 0 & -2\\ 1 & -3 & 2\end{bmatrix}$ AB 1×2 2×3 BA NP 2×3 1×2

$AB=\begin{bmatrix}12-5 & 0+15 & -6-10\end{bmatrix}=\begin{bmatrix}7 & 15 & -16\end{bmatrix}$

4 $A=\begin{bmatrix}4\\ 5\end{bmatrix}$ $B=\begin{bmatrix}6 & 1 & -10 & 9\end{bmatrix}$ AB 2×1 1×4 BA NP 2×4 2×1

$AB=\begin{bmatrix}24 & 4 & -40 & 36\\ 30 & 5 & -50 & 45\end{bmatrix}$

5. $A = \begin{bmatrix} 2 \\ 5 \\ -6 \end{bmatrix}$ $B = \begin{bmatrix} 6 & 0 & -1 \\ -4 & 9 & 8 \end{bmatrix}$ $\begin{bmatrix} 2 \\ 5 \\ 6 \end{bmatrix}$ AB NP BA ✓
3×1 2×3 2×3 3×1

$BA = \begin{bmatrix} 12+0-6 \\ -8+45+48 \end{bmatrix} = \begin{bmatrix} 6 \\ 85 \end{bmatrix}$

#6 ↓

9. Points per Player

$A \begin{bmatrix} 44 & 32 & 25 \\ 37 & 24 & 31 \\ 35 & 39 & 29 \end{bmatrix} B \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix}$ $AB = \begin{bmatrix} 183 \\ 208 \\ 200 \end{bmatrix}$

57 BD + B ✓ $BD \begin{bmatrix} 14-4 & 4-1 \\ 0-4 & 0-1 \\ 21+8 & 6+2 \end{bmatrix} = \begin{bmatrix} 10 & 3 \\ -4 & -1 \\ 29 & 8 \end{bmatrix} + \begin{bmatrix} 2 & 1 \\ 0 & 1 \\ 3 & -2 \end{bmatrix} - \begin{bmatrix} 12 & 4 \\ -4 & 0 \\ 32 & 6 \end{bmatrix}$
3×2 2×2 3×2

58. DC − A ✓ $\begin{bmatrix} -7+14 & 63+10 & -42+0 \\ 4-7 & -36-5 & 24+0 \end{bmatrix} = DC = \begin{bmatrix} 7 & 53 & -42 \\ -3 & -41 & 24 \end{bmatrix}$
2×2 2×3 2×3

$DC = \begin{bmatrix} 7 & 53 & -42 \\ -3 & -41 & 24 \end{bmatrix}$

$DC + A = \begin{bmatrix} 11 & 54 & -45 \\ -3 & -39 & 32 \end{bmatrix}$

$DC - A \begin{bmatrix} 3 & 52 & -39 \\ -3 & -43 & 16 \end{bmatrix}$

#6 $A = \begin{bmatrix} 2 & 0 \\ -4 & -3 \\ 1 & -2 \end{bmatrix}$ $B = \begin{bmatrix} 0 & 6 & -5 \\ 2 & -7 & 1 \end{bmatrix}$
3×2 2×3

$AB = \begin{bmatrix} (0+0) & (12+0) & (-10+0) \\ (0-6) & (-24+21) & (20-3) \\ (0-4) & (6+14) & (-5-2) \end{bmatrix}$

$BA = \begin{bmatrix} (0-24-5) & (0-18+10) \\ (4-28+1) & (0+21-2) \end{bmatrix}$

$BA \begin{bmatrix} -29 & -8 \\ -23 & 19 \end{bmatrix}$

$= AB \begin{bmatrix} 0 & 12 & -10 \\ -6 & -3 & 17 \\ -4 & 20 & -7 \end{bmatrix}$

WPP #1

1. Inventory need Store, value

$S \times \underline{HP} \times \underline{HP} \times V$ $\quad V \cdot S$

$3\times 3 \quad 3\times 1 \quad 1\times 3 \quad 3\times 3$

$$V = \begin{bmatrix} 250 & 300 & 350 \end{bmatrix} \quad S = \begin{bmatrix} 5 & 4 & 3 \\ 3 & 5 & 4 \\ 7 & 2 & 3 \end{bmatrix}$$

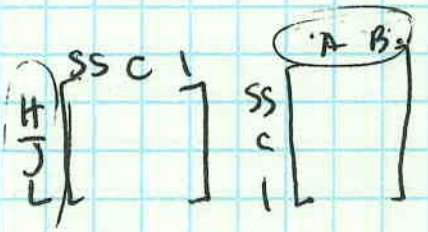
$$VS = \begin{bmatrix} (1250+900+2450) & (1000+1500+700) & (750+1200+1050) \end{bmatrix}$$

$$VS = \begin{bmatrix} 4600 & 3200 & 3000 \end{bmatrix}$$

Store A has he largest value at $4600.

2. $N \times S$ (name / system)

$$N_{3\times 3} = \begin{bmatrix} 6 & 4 & 2 \\ 3 & 5 & 1 \\ 2 & 4 & 6 \end{bmatrix} \quad S_{3\times 2} = \begin{bmatrix} .2 & .4 \\ .5 & .3 \\ .3 & .3 \end{bmatrix}$$



$$NS = \begin{bmatrix} (1.2+2+.6) & (2.4 & 1.2 & .6) \\ (.6+2.5 & .3) & (1.2 & 1.5 & .3) \\ (.4+2.0+1.8) & (.8 & 1.2 & 1.8) \end{bmatrix}$$

$$NS_{H,J,L} \begin{matrix} \\ A \\ \\ \end{matrix} \begin{matrix} \\ B \\ \\ \end{matrix} \begin{bmatrix} 3.8 & 4.2 \\ 3.4 & 3 \\ 4.2 & 3.8 \end{bmatrix}$$

a. System B favors Holly

b. System A favors Joelle

c. System A favors Luisa