1. If $A = \begin{pmatrix} 1 & 9 \\ 3 & 4 \\ 8 & -3 \end{pmatrix}$, $B = \begin{pmatrix} 5 & 7 \\ 3 & 3 \\ 1 & 0 \end{pmatrix}$ then verify that

(i) $A + B = B + A$

ii) $A + (-A) = (-A) + A = O$

1. $A = \begin{pmatrix} 1 & 9 \\ 3 & 4 \\ 8 & -3 \end{pmatrix}$, $B = \begin{pmatrix} 5 & 7 \\ 3 & 3 \\ 1 & 0 \end{pmatrix}$ எனில்,

பின்வருவனவற்றைச் சரிபார்க்க.

(i) $A + B = B + A$

(ii) $A + (-A) = (-A) + A = O$.

$A = \begin{pmatrix} \quad & \quad \\ \quad & \quad \\ \quad & \quad \end{pmatrix}$ $B = \begin{pmatrix} \quad & \quad \\ \quad & \quad \\ \quad & \quad \end{pmatrix}$

$A+B = \begin{pmatrix} \quad & \quad \\ \quad & \quad \\ \quad & \quad \end{pmatrix} + \begin{pmatrix} \quad & \quad \\ \quad & \quad \\ \quad & \quad \end{pmatrix}$

$A+B = \begin{pmatrix} \quad & \quad \\ \quad & \quad \\ \quad & \quad \end{pmatrix}$

$B+A = \begin{pmatrix} \quad & \quad \\ \quad & \quad \\ \quad & \quad \end{pmatrix} + \begin{pmatrix} \quad & \quad \\ \quad & \quad \\ \quad & \quad \end{pmatrix}$

$B+A = \begin{pmatrix} \quad & \quad \\ \quad & \quad \\ \quad & \quad \end{pmatrix}$

$A+(-A) = \begin{pmatrix} \quad & \quad \\ \quad & \quad \\ \quad & \quad \end{pmatrix} + \begin{pmatrix} \quad & \quad \\ \quad & \quad \\ \quad & \quad \end{pmatrix}$

$$A+(-A)=\begin{pmatrix} \quad & \quad \\ \quad & \quad \end{pmatrix}=O$$

$$(-A)+A=\begin{pmatrix} \quad & \quad \\ \quad & \quad \end{pmatrix}+\begin{pmatrix} \quad & \quad \\ \quad & \quad \end{pmatrix}$$

$$(-A)+A=\begin{pmatrix} \quad & \quad \\ \quad & \quad \end{pmatrix}=O$$

பயிற்சி 3.18

1. A, B என்ற அணிகள் கீழ்க்கண்டவாறு இருப்பின் AB -யின் வரிசையைக் காண்க.

	(i)	(ii)	(iii)	(iv)	(v)
A –யின் வரிசைகள்	3 × 3	4 × 3	4 × 2	4 × 5	1 × 1
B –யின் வரிசைகள்	3 × 3	3 × 2	2 × 2	5 × 1	1 × 3

1. Find the order of the product matrix AB if

	(i)	(ii)	(iii)	(iv)	(v)
Orders of A	3 × 3	4 × 3	4 × 2	4 × 5	1 × 1
Orders of B	3 × 3	3 × 2	2 × 2	5 × 1	1 × 3

(i) $\left.\begin{matrix} order\ of\ A \\ A\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

$\left.\begin{matrix} order\ of\ B \\ B\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

$\left.\begin{matrix} order\ of\ AB \\ AB\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

(ii) $\left.\begin{matrix} order\ of\ A \\ A\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

$\left.\begin{matrix} order\ of\ B \\ B\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

$\left.\begin{matrix} order\ of\ AB \\ AB\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

(iii) $\left.\begin{matrix} order\ of\ A \\ A\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

$\left.\begin{matrix} order\ of\ B \\ B\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

$\left.\begin{matrix} order\ of\ AB \\ AB\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

(iv) $\left.\begin{matrix} order\ of\ A \\ A\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

$\left.\begin{matrix} order\ of\ B \\ B\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

$\left.\begin{matrix} order\ of\ AB \\ AB\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

(v) $\left.\begin{matrix} order\ of\ A \\ A\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

$\left.\begin{matrix} order\ of\ B \\ B\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

$\left.\begin{matrix} order\ of\ AB \\ AB\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

2. If A is of order p × q and B is of order q ×r what is the order of AB and BA?

2. அணி A -யின் வரிசை p × q மற்றும் B -யின் வரிசை q × r இரு அணிகளையும் பெருக்க முடியும் எனில், AB மற்றும் BA ஆகியவற்றின் வரிசையைக் காண்க.

(iv) $\left.\begin{matrix} order\ of\ A \\ A\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

$\left.\begin{matrix} order\ of\ B \\ B\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

$\left.\begin{matrix} order\ of\ AB \\ AB\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$

$\left.\begin{matrix} order\ of\ BA \\ BA\ \square\square\square\ \square\square\square\square\square \end{matrix}\right\} =$