Using the Identity Matrix

$A = \begin{pmatrix} -1 & 3 \\ 2 & -2 \end{pmatrix} \quad B = \begin{pmatrix} -2 & 0 \\ 4 & 5 \end{pmatrix}$

(a) Given that $B + C = I$, find C

(b) Given that $D - A = I$, find D

(c) Given that $B + 2I = E$, find E

(a) $C = \begin{pmatrix} 3 & 0 \\ -4 & -4 \end{pmatrix}$

(b) $D = \begin{pmatrix} 0 & 3 \\ 2 & -1 \end{pmatrix}$

(c) $E = \begin{pmatrix} 0 & 0 \\ 4 & 7 \end{pmatrix}$

(a) Given that

$$\begin{pmatrix} x & -2 \\ -7 & y \end{pmatrix}\begin{pmatrix} 3 & 2 \\ 7 & 5 \end{pmatrix} = I$$

Find the values of x and y.

(b) Given that

$$\begin{pmatrix} 4 & -1 \\ -7 & 2 \end{pmatrix}\begin{pmatrix} 2 & p \\ q & 4 \end{pmatrix} = I$$

Find the values of p and q.

(a) $x = 5$
$y = 3$

(b) $p = 1$
$q = 7$

(a) Find I^2

(b) Given that $2A + I^2 = \begin{pmatrix} 6 & -4 \\ -1 & 5 \end{pmatrix}$

find A.

(a) $\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$

(b) $A = \begin{pmatrix} 2.5 & -2 \\ -0.5 & 2 \end{pmatrix}$

(a) Given that $\begin{pmatrix} a & b \\ c & d \end{pmatrix}\begin{pmatrix} 3 & -2 \\ 4 & -3 \end{pmatrix} = I$

find the values of a, b, c and d.

(b) Given that $\begin{pmatrix} -5 & 3 \\ 3 & -2 \end{pmatrix}\begin{pmatrix} a & b \\ c & d \end{pmatrix} = I$

find the values of a, b, c and d.

(c) Given that

$$\begin{pmatrix} x & \frac{1}{2} \\ -2 & y \end{pmatrix}\begin{pmatrix} 1 & z \\ -\frac{2}{3} & -\frac{4}{9} \end{pmatrix} = I^2$$

find the values of x, y, and z.

(a) $a = 3$
$b = -2$
$c = 4$
$d = -3$

(b) $a = -2$
$b = -3$
$c = -3$
$d = -5$

(c) $x = 4/3$
$y = 1/6$
$z = -3$