

EQUAL MATRICES

Answer ALL questions in the spaces provided for your answers. Give answers in exact decimals where appropriate (e.g. 1.5 or -0.25 or 0.625)

1. Given that $A = \begin{pmatrix} -1 & x \\ y & 3 \end{pmatrix}$, $B = \begin{pmatrix} 3 & 1 \\ -1 & 2 \end{pmatrix}$, $C = \begin{pmatrix} -4 & r \\ s & 7 \end{pmatrix}$ and $AB = C$, determine the values of x , y , r and s .

$x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$ $r = \underline{\hspace{2cm}}$ $s = \underline{\hspace{2cm}}$

2. Given that $\begin{pmatrix} -1 & x \\ y & 2 \end{pmatrix} \begin{pmatrix} 2 & -1 \\ 1 & 3 \end{pmatrix} = \begin{pmatrix} a & 10 \\ 6 & b \end{pmatrix}$, evaluate x , y , a and b .

$x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$ $a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$

3. If $P = \begin{pmatrix} 3 & -2 \\ 4 & 1 \end{pmatrix}$, $Q = \begin{pmatrix} 7 & 5 \\ 0 & 6 \end{pmatrix}$, $R = \begin{pmatrix} p & q \\ r & s \end{pmatrix}$ and $\frac{1}{2}PQ = R$, calculate the values of p , q , r and s .

$p = \underline{\hspace{2cm}}$ $q = \underline{\hspace{2cm}}$ $r = \underline{\hspace{2cm}}$ $s = \underline{\hspace{2cm}}$

4. Given that $A = \begin{pmatrix} 2 & -3 \\ 4 & 5 \end{pmatrix}$, $B = \begin{pmatrix} 7 & 6 \\ 8 & 1 \end{pmatrix}$, $C = \begin{pmatrix} a & b \\ c & d \end{pmatrix}$ and $\frac{1}{2}A - \frac{1}{4}B = C$,
calculate the values of a, b, c and d .

$a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$ $c = \underline{\hspace{2cm}}$ $d = \underline{\hspace{2cm}}$

5. If $P = \begin{pmatrix} -5 & 3 \\ 6 & 7 \end{pmatrix}$, $Q = \begin{pmatrix} 6 & -2 \\ 1 & 0 \end{pmatrix}$, $R = \begin{pmatrix} w & x \\ y & z \end{pmatrix}$ and $2P - Q = R$,
determine the values of w, x, y and z .

$w = \underline{\hspace{2cm}}$ $x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$ $z = \underline{\hspace{2cm}}$