DETERMINANT AND INVERSE OF 2X2 MATRICES

Exercise 1: Find the determinant of the following matrices

a) $\begin{pmatrix} 3 & 2 \\ 2 & 5 \end{pmatrix}$

b) $\begin{pmatrix} 6 & 3 \\ 2 & 10 \end{pmatrix}$

c) $\begin{pmatrix} 10 & 5 \\ 1 & 1 \end{pmatrix}$

d) $\begin{pmatrix} 5 & 5 \\ 4 & 5 \end{pmatrix}$

e) $\begin{pmatrix} 4 & 10 \\ 1 & 2 \end{pmatrix}$

f) $\begin{pmatrix} 8 & 10 \\ 3 & 3 \end{pmatrix}$

Exercise 2: Find the inverse of the following matrices

a) $\begin{pmatrix} 3 & 2 \\ 2 & 5 \end{pmatrix}$

b) $\begin{pmatrix} 6 & 3 \\ 2 & 10 \end{pmatrix}$

c) $\begin{pmatrix} 10 & 5 \\ 1 & 1 \end{pmatrix}$

d) $\begin{pmatrix} 5 & 5 \\ 4 & 5 \end{pmatrix}$

e) $\begin{pmatrix} 4 & 10 \\ 1 & 2 \end{pmatrix}$

f) $\begin{pmatrix} 8 & 10 \\ 3 & 3 \end{pmatrix}$

Exercise 3: Find the determinant of the following matrices

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

b) $\begin{pmatrix} 7 & 2 \\ 3 & 1 \end{pmatrix}$

c) $\begin{pmatrix} 20 & 4 \\ 5 & 1 \end{pmatrix}$

d) $\begin{pmatrix} 30 & 15 \\ 4 & 2 \end{pmatrix}$

COMMENT ON YOUR ANSWERS FOR a, c, d.

Exercise 4: Find the inverse of the following matrices

a) $\begin{pmatrix} 7 & 2 \\ 3 & 7 \end{pmatrix}$

b) $\begin{pmatrix} 6 & 3 \\ 3 & 9 \end{pmatrix}$

c) $\begin{pmatrix} 10 & 6 \\ 6 & 4 \end{pmatrix}$

d) $\begin{pmatrix} 1 & 6 \\ 2 & -20 \end{pmatrix}$

e) $\begin{pmatrix} -2 & 4 \\ 1 & 8 \end{pmatrix}$

f) $\begin{pmatrix} -14 & 4 \\ 4 & -3 \end{pmatrix}$

g) $\begin{pmatrix} 10 & 9 \\ 2 & 2 \end{pmatrix}$

h) $\begin{pmatrix} 41 & -6 \\ 3 & 2 \end{pmatrix}$