

10.	<p>If $A = \begin{bmatrix} 1 & 2 & 0 \\ -2 & -1 & -2 \\ 0 & -1 & 1 \end{bmatrix}$ find A^{-1} using elementary transformations and use it to solve $x - 2y = 10$, $2x - y - z = 8, -2y + z = 7$.</p>	6
11.	<p>If $A = \begin{pmatrix} 2 & 3 \\ -1 & 2 \end{pmatrix}$ then show that $A^2 - 4A + 7I = 0$. Using this result find A^3.</p>	4
12.	<p>If p, q, r are not in GP, and $\begin{vmatrix} 1 & \frac{q}{p} & r + \frac{q}{p} \\ 1 & \frac{r}{q} & r + \frac{r}{q} \\ pr + q & qr + r & 0 \end{vmatrix} = 0$, prove that $pr^2 + 2qr + r = 0$</p>	4
13.	<p>In $\triangle ABC$, if $\begin{vmatrix} 1 & 1 & 1 \\ \sin A & \sin B & \sin C \\ \sin A + \sin^2 A & \sin B + \sin^2 B & \sin C + \sin^2 C \end{vmatrix} = 0$, then prove that the triangle ABC is isosceles.</p>	4
14.	<p>In the matrix equation $\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \begin{bmatrix} 4 & 3 \\ 2 & 1 \end{bmatrix} = \begin{bmatrix} 8 & 5 \\ 20 & 13 \end{bmatrix}$ apply $R_2 \rightarrow R_2 - R_1$ and then apply $C_2 \rightarrow C_2 - C_1$.</p>	1
15.	<p>If a, b and c are in A.P, Find the value of $\begin{vmatrix} 2y + 4 & 5y + 7 & 8y + a \\ 3y + 5 & 6y + 8 & 9y + b \\ 4y + 6 & 7y + 9 & 10y + c \end{vmatrix}$</p>	4

Dear Children,
There is no substitute for hard work.
All the best. God Bless.