

Mathematical Typesetting

KR Chowdhary
CSE Department

January 13, 2014

The *characteristic polynomial* $\chi(\lambda)$ of the 3×3 matrix

$$\begin{pmatrix} a & b & c \\ d & e & f \\ g & h & i \end{pmatrix}$$

is given by the formula

$$\chi(\lambda) = \begin{vmatrix} \lambda - a & -b & -c \\ -d & \lambda - e & -f \\ -g & -h & \lambda - i \end{vmatrix}.$$

Simple array

First number	x	8
Second number	y	15
Sum	$x + y$	23
Difference	$x - y$	-7
Product	xy	120

Use the array environment to produce formulas such as

$$|x| = \begin{cases} x & \text{if } x \geq 0; \\ -x & \text{if } x < 0. \end{cases}$$

Obtain summation by:

$$\sum_{k=1}^n k^2 = \frac{1}{2}n(n+1).$$