

## Determinant 3x3 short cut way

Thursday 19 November 2020 19:33

$$A = \begin{bmatrix} 2 & -3 & 1 \\ 5 & -1 & 2 \\ 3 & 2 & -1 \end{bmatrix}$$

$$\begin{array}{ccc|ccc} 2 & -3 & 1 & 2 & -3 & \\ 5 & -1 & 2 & 5 & -1 & \\ 3 & 2 & -1 & 3 & 2 & \end{array}$$

$\Rightarrow$

$$\begin{aligned} & (2 \times -1 \times -1) + (-3 \times 2 \times 3) \\ & \quad + (1 \times 5 \times 2) \\ & - (-3 \times 5 \times -1) + \\ & \quad (2 \times 2 \times 2) + (1 \times -1 \times 3) \\ & = (2 + (-18) + 10) - \\ & \quad (15 + 8 + -3) \\ & = -6 - (20) \\ & = \boxed{-26} \end{aligned}$$