QUESTION : 1.2.6

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Verify that

$$G = \frac{A + B + C}{3} \qquad (1)$$

G is known as the <u>centroid</u> of $\triangle ABC$

SOLUTION:

let us first evaluate the R.H.S of the equation

$$
\begin{aligned}
G &= \frac{\begin{pmatrix} 1 \\ -1 \end{pmatrix} + \begin{pmatrix} -4 \\ 6 \end{pmatrix} + \begin{pmatrix} -3 \\ -5 \end{pmatrix}}{3} \\
&= \begin{pmatrix} \frac{1-4-3}{3} \\ \frac{-1+6-5}{3} \end{pmatrix} \qquad (2) \\
&= \begin{pmatrix} -2 \\ 0 \end{pmatrix}
\end{aligned}
$$

Hence verified.