

Solution (#639) Note

$$(1, -1, 1) \begin{pmatrix} 1 & 1 \\ 3 & 4 \\ 2 & 3 \end{pmatrix} = (0, 0)$$

So we can take

$$B_3 = B_1 + \begin{pmatrix} 1 & -1 & 1 \\ 0 & 0 & 0 \end{pmatrix} = \begin{pmatrix} 9 & -6 & 5 \\ -6 & 4 & -3 \end{pmatrix},$$

which is not a linear combination of B_1 and B_2 .