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1. $$\mathbf{A} = \begin{pmatrix} p & -5 \\ -2 & p+3 \end{pmatrix}$$

(a) Determine the values of the constant p for which $\mathbf{A}$ is singular.

(3)

Given that $p = 3$

(b) determine $\mathbf{A}^{-1}$

(3)

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Question 1 continued

Q1

(Total 6 marks)