

Advanced Higher Maths
SQA 2016 Exemplar
Question 7



Matrices A and B are defined by $A = \begin{pmatrix} 4 & p \\ -2 & 1 \end{pmatrix}$ and $B = \begin{pmatrix} x & -6 \\ 1 & 3 \end{pmatrix}$.

- (a) Find A^2 . 1
- (b) Find the value of p for which A^2 is singular. 2
- (c) Find the values of p and x if $B = 3A'$. 2
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Answers:

(a) $\begin{pmatrix} 16-2p & 5p \\ -10 & 1-2p \end{pmatrix}$

(b) $p = -2$

(c) $x = 12$ and $p = \frac{1}{3}$