

Edexcel (U.K.) Pre 2017

Questions By Topic

FP1 Chap04 Matrix Algebra

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2.

$$\mathbf{A} = \begin{pmatrix} 2 & 0 \\ 5 & 3 \end{pmatrix}, \quad \mathbf{B} = \begin{pmatrix} -3 & -1 \\ 5 & 2 \end{pmatrix}$$

(a) Find \mathbf{AB} .

(3)

Given that

$$\mathbf{C} = \begin{pmatrix} -1 & 0 \\ 0 & 1 \end{pmatrix}$$

(b) describe fully the geometrical transformation represented by \mathbf{C} ,

(2)

(c) write down \mathbf{C}^{100} .

(1)

Q2

(Total 6 marks)

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9.
$$\mathbf{M} = \begin{pmatrix} 3 & 4 \\ 2 & -5 \end{pmatrix}$$

- (a) Find $\det \mathbf{M}$. (1)

The transformation represented by \mathbf{M} maps the point $S(2a - 7, a - 1)$, where a is a constant, onto the point $S'(25, -14)$.

- (b) Find the value of a . (3)

The point R has coordinates $(6, 0)$.

Given that O is the origin,

- (c) find the area of triangle ORS . (2)

Triangle ORS is mapped onto triangle $OR'S'$ by the transformation represented by \mathbf{M} .

- (d) Find the area of triangle $OR'S'$. (2)

Given that

$$\mathbf{A} = \begin{pmatrix} 0 & -1 \\ 1 & 0 \end{pmatrix}$$

- (e) describe fully the single geometrical transformation represented by \mathbf{A} . (2)

The transformation represented by \mathbf{A} followed by the transformation represented by \mathbf{B} is equivalent to the transformation represented by \mathbf{M} .

- (f) Find \mathbf{B} . (4)
