FP1 Transformations Answers

7(a)(i)	Reflection ...	M1		
	... in $y = -x$	A1	2	OE
(ii)	$\mathbf{A}^2 = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$	M1A1	2	M1A0 for three correct entries
(iii)	$\mathbf{A}^2 = \mathbf{I}$ or geometrical reasoning	E1	1	
(ii)	$(\mathbf{B}+\mathbf{A})(\mathbf{B}-\mathbf{A}) = \begin{bmatrix} 1 & 0 \\ -1 & 1 \end{bmatrix}\begin{bmatrix} 1 & 2 \\ 1 & 1 \end{bmatrix}$	B1		
	$... = \begin{bmatrix} 1 & 2 \\ 0 & -1 \end{bmatrix}$	M1 A1√	3	ft one error; M1A0 for three correct (ft) entries

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(b)	Rotation (about the origin) ... through 45° clockwise	M1 A1	2	

(b)(i)	Rotation 30° anticlockwise (abt O)	M1A1	2	M1 for rotation
(ii)	Reflection in $y = (\tan 15^\circ)x$	M1A1	2	M1 for reflection
(iii)	Reflection in x-axis	B2F	2	1/2 for reflection in y-axis ft (M1A1) only for the **SC**
	Alt: Answer to (i) followed by answer to (ii)	M1A1F	(2)	M1A0 if in wrong order or if order not made clear

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1(a)	$\mathbf{M} = \begin{bmatrix} 0 & -3 \\ -3 & 0 \end{bmatrix}$	B2,1	2	B1 if subtracted the wrong way round
(b)	$p = 3$	B1F		ft after B1 in (a)
	L is $y = -x$	B1	2	Allow $p = -3$, L is $y = x$
