Full Name:	
(BLOCK CAPITALS)	

STUDENT NUMBER:_____

_Tutorial Group Number:____

4CCM122A Geometry I: Test 3

CALCULATORS MAY NOT BE USED

ANSWER GRID: put a cross in ONE BOX for the correct answer for each question. If you change your mind and want to correct your answer, obliterate your incorrect answer by shading its box, and put a new cross in the box for the correct answer.

	a	b	с	d	е
1					
2					
3					
4					

MARKS: each correct answer = +5, incorrect = -1, none (or more than one) = 0.

Do any rough working on the back of this sheet, or on a NAMED separate sheet. You are strongly advised to draw diagrams.

1. Let f be the isometry defined by the rule f(z) = iz + 6 + 6i. Which one of the following points is a fixed point of f?

> (a) 6i (b) -6 (c) 3 + 3i (d) 3 - 3i(e) 6+6i

- **2.** The line x + y 1 = 0 is the mirror line of which one of the following reflections?
 - (a) f(x,y) = (y+1, x-1)(b) f(x,y) = (y,x)(c) f(x,y) = (-y, -x)(d) f(x,y) = (1-y, -x+1)(e) f(x,y) = (2-y, 2-x)
- **3.** Let g be the counter-clockwise rotation defined by $g(z) = \frac{\sqrt{2}}{2}(1+i)z$. Then the angle of the rotation is

(a)
$$\pi$$
 (b) $-\frac{\pi}{2}$ (c) $\frac{\pi}{3}$ (d) $\frac{\pi}{4}$
(e) $-\frac{3\pi}{4}$

4. One and only one of the maps below is an isometry. Which one?

(a) z^2	(b) $ z $
(c) $5z$	(d) $i\bar{z} + 2 - i$
(e) $\sin z $	

END OF TEST

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