

PROBLEM SHEET 14

$$(1) \quad (x, y) = (1, 1)t + (1, 2)$$

$$(2) \quad (x, y, z) = (1, 1, 1)t$$

$$(x, y, z) = (1, 1, 0)t + (0, 0, 1)$$

$$(x, y, z) = (1, 0, 0)t + (0, 1, 1)$$

$$(3) \quad (x, y, z) = (0, 2, 4)t + (5, 4, 3)$$

$$\vec{v} = (1, 0, 0), \quad \vec{w} = (0, -2, 1)$$

$$(x, y, z) = (1, 0, 0)s + (0, -2, 1)t$$

$$(4) \quad (2, 5, 1)(x-2, y-2, z-2) = 0$$

$$(5) \quad \text{Yes}$$

$$(6) \quad 3x + 2y - z = 4$$

$$(7) \quad \alpha = \cos^{-1} \frac{57}{5\sqrt{130}}$$