

## Answers to Test 1, 1998

1. (a) 7  
(b)  $(0, 3/2, 2)$   
(c)  $\langle -2, -3, 6 \rangle$   
(d) 7
2. (a)  $\sqrt{89}$   
(b)  $\cos^{-1}(-44/45)$
3.  $x^2y \sin(xy)$
4. (a)  $x = -1 + 2t$   
 $y = 2 + t$   
 $z = -t$   
(b)  $x = -1$   
 $y = 2 + t$   
 $z = t$
5. (i) (c), an ellipse  
(ii) (e),  $(0, \pm\sqrt{2}, 0)$   
(iii) (b), a hyperbola

**Extra Credit:**  $x = t$   
 $y = 0$   
 $z = -t$