Answers to Test 1, 1992

1. (a) $\langle -1, 2, 1\rangle$
   (b) 3
   (c) $3/\sqrt{2}$
   (d) $\pi/6$
2. 2
3. $x + y - z = 1$
4. $\langle 1, -1, 2\rangle$
5. $\langle 2, 0, \pi\rangle$
6. lines
7. 0
8. (a) (a), the yz-plane
   (b) (e), $k = 1/\sqrt{3}$ and the parametric equations $x = \pm\sqrt{2}t$, $y = t$, and $z = 1/\sqrt{3}$

Extra Credit: $f(x, y) = x^3 + y^3 + x^2 + y^2$ and $g(x, y) = x^2 + y^2$