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 $g(x, y) = x^2 + y^2$