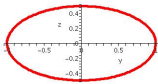
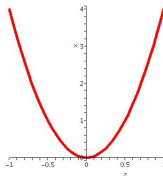


Math 251
Answers to Practice Test A For Chapter 10

1. See textbook page 562.
2. See textbook page 552.
3. (a) $\langle -2/3, 2/3, -1/3 \rangle$, (b) $3\sqrt{17}$, (c) $\sim 103.6^\circ$.
4. (a) $\sqrt{14}/2$, (b) $x + 3y + 2z = 1$.
5. (a) $y^2 + 4z^2 = 1$ is the ellipse below.



- (b) $x = 4z^2$ is the parabola below.



- (c) The surface is a paraboloid.
6. (a) $\sqrt{5}$, (b) $\langle -\sqrt{2/5}, \sqrt{2/5}, 1/\sqrt{5} \rangle$,
 (c) $\langle -2, 2, \sqrt{2} \rangle t + \langle \sqrt{2}, \sqrt{2}, \pi/4 \rangle$. (Answer for (c) is not unique.)
 7. $\frac{\sqrt{2}}{3}e^{-t}$. (This one would be too hard for a test, but it is good practice. Took me three tries!)
 8. $\kappa(x) = 6|x|(1 + 9x^4)^{-3/2}$. Its graph is below.

