Section: _____   **Name:**_____

Basic Concept Check

[6 pts]   (a) True or False:

i.   ____   If one of x, y, z is missing from the equation, the surface is a cylinder.

ii.   ____   A hyperbolic paraboloid must have an x^2 term a y^2 term and a z term.

[9 pts]   (b) Identify each:

i. $x^2 - 5z^2 = 1$

ii. $\dfrac{x^2}{25} - \dfrac{y^2}{4} - \dfrac{z^2}{16} = 1$

iii. $y - 4x^2 = 16z^2$

[5 pts]   iv. $z = \sqrt{x^2 + y^2}$

[5 pts]   v. $x^2 - 8x - y^2 - 2y + z^2 + 15 = 0$

5 pts]

[5 pts]   vi. $x^2 + y^2 - 2x - 6y - z + 10 = 0$