Your name: _____

Quiz no. 2 (2110 Multivariable Calculus, Fall 2009)

September 25, 2009

20 min.

1. *(2 points)* Give an equation for the line through $P(2, 4, -1)$ orthogonal to the plane given by $3x - 4y + 2z = -5$.

2. *(3 points)* Compute the distance of P to the plane, where P and the plane are as in the previous problem.

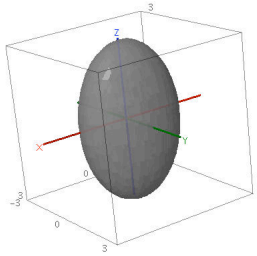
3. *(5 points)* Compute the volume of the parallelepiped with edges PQ, PR and PS for $P(2, 0, -1)$, $Q(4, 1, 2)$, $R(2, -2, 2)$ and $S(5, 3, -2)$.

4. *(5 points)* Find an equation for the intersection of the two planes $2x - 3y = 5$ and $x + 6y + 4z = 3$.

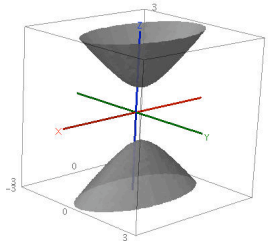
5. *(5 points)* Match the following equations with the graphs below:

$x^2 + 4y^2 - z = 0$		$x^2 + 4y^2 - z^2 = 1$	
$\frac{1}{4}x^2 + \frac{1}{2}y^2 + \frac{1}{9}z^2 = 1$		$x^2 + 4y^2 - z^2 = -1$	
$\frac{1}{4}x^2 + \frac{1}{2}y^2 - \frac{1}{9}z^2 = 0$			

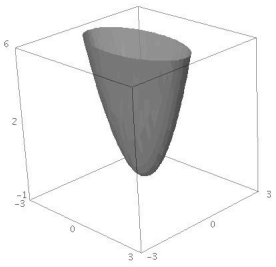
I



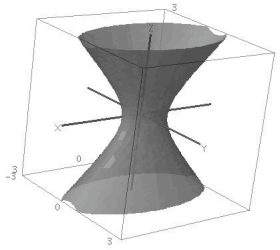
II



III



IV



V