Your Name	
Your UnetID	

Logistic regression:

The logistic function (a sigmoid curve, for it's 'S' shape) is $\sigma(x) = \frac{1}{1+e^{-x}}$. It's derivative is $\frac{\partial \sigma}{\partial x} = \sigma(x)\big(1 - \sigma(x)\big)$. (*Challenge: derive the partial derivative expression* $\frac{\partial \sigma}{\partial x}$)

What are the minimum and maximum values of the logistic function?

Given two points (4 hrs = pass or 1, and 2 hrs=fail or 0), what is the likelihood given $\boldsymbol{w_0 = -2.6, w_1 = 1, or\ h = \sigma(-2.6 + x)}$? (Note: h(4) = 0.8, h(2)=0.35)

Support vector machines:

SVMS use the definition for the separator $w \cdot x - b = 0$. This is the dot product of a weight vector and an x vector. Assume that $x_1 = x\ and\ x_2 = y$, can you write our tradition equation for a line in terms of w_1, w_2, b ?

Naïve Bayes

Write the full formula for calculating the updated value for P(Ham)