MAT 1339 A Assignment 3 (Due THU. NOV. 11th, 11:30) Student Number:

Name:

Problem 1: Find the equation of the tangent line to the graph of $f(x) = \cos(e^{x-5} - 1) + x$ at the point (5,6). Hint: Recall that such an equation has the form y = mx + n. What is the meaning of m? Find m and n.

Work:

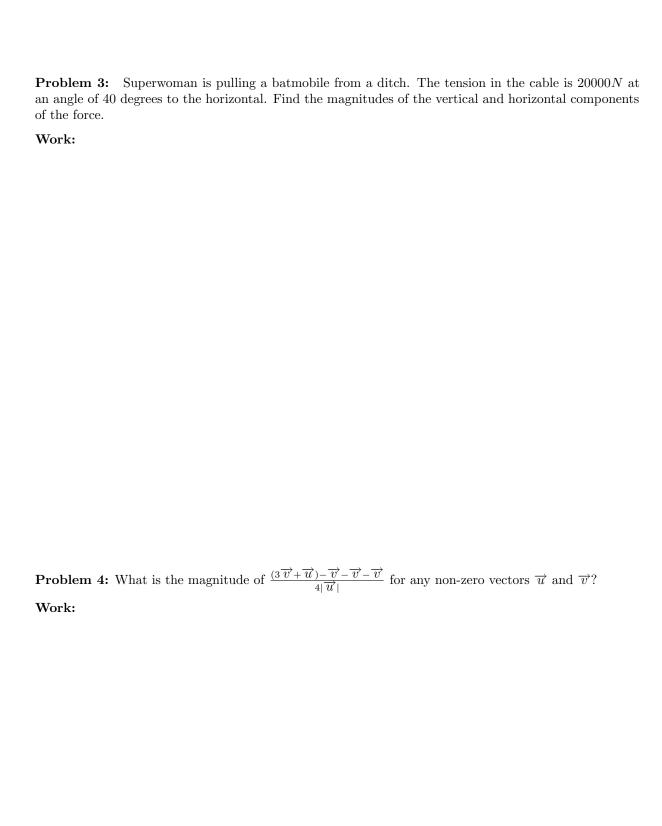
Problem 2: Using the rules of differentiation find the derivative of (i) $89^{7x-2010}$;

(ii)
$$37^{37x-x^2}e^{2x}$$
;

(iii)
$$\frac{88^{2x}}{38^{4x}}$$
.

Hint: do not simplify!

Work:



Problem 5: In a hexagon ABCDEF, opposites sides are equal and parallel, and moreover $2\overrightarrow{AB} = \overrightarrow{FC}$. Express \overrightarrow{BF} in terms of \overrightarrow{FA} and \overrightarrow{BA} . Hint: draw a picture!

Work: