MTH 132-020   **Calculus I**   **F18**

Quiz 5
Due on 10/8/18 at 10:20AM

1. Suppose $xy + \cos y = x^2$. Find y' and y'' when $x = 0$ and $y = \frac{\pi}{2}$.

2. A two piece extension ladder leaning against a wall is collapsing at a rate ot 2 feet per second at the same time as its foot is moving away from the wall at a rate of 3 feet per second. How fast is the top of ladder moving down the wall when the top is 8 feet from the ground and the foot is 6 feet from the wall.

3. A swimming pool is 40ft long, 20ft wide, 8ft deep at the deep end and 3ft deep at the shallow end. The bottom is rectangular. If the pool is filled at a rate of $40 \frac{\text{ft}^3}{\text{min}}$, how fast is the water level rising when it is 3ft deep at the deep end.