Math 173 - Quiz 4

Name _____

February 19, 2015

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (5 points) A mortar shell is fired with a muzzle speed of 500 ft/sec. Find the angle of elevation of the mortar if the shell strikes a target located 1200 ft away. What is the maximum height of the shell?

2. (5 points) Let $\vec{r}(t) = \cos t\,\hat{\imath} + \sin t\,\hat{\jmath}$. Compute $\dfrac{d}{dt}(\hat{T}(t) \times \hat{N}(t))$.