MA 181 WORKSHEET (4.1)

NAME _____

SOLVE USING RELATED RATES:

1. A man decides to pull one of his teeth by tying a rubber band from his tooth to the chain on a garage door opener which runs on a horizontal track 3 feet above his mouth. If the garage door opener moves the chain at .25 ft/s, how fast is the rubber band expanding when it is stretched to a length of 5 feet?

2. A hot air balloon is rising vertically. An observer on the ground is 2000 meters from the point where the balloon took off. The angle between the ground and the observer's line of sight increases at a rate of 1/2000 radian/s when the balloon reaches a height of 3000 meters. How fast is the balloon rising at that moment?