

Name _____ Quiz 4

1) A certain rectangle has a height that is always twice its width. If the width increases at a rate of 3ft/s , how quickly is the area increasing when it is 10 feet wide?

2) At a certain cement mixing factory, small aggregate enters the mixture from a hopper shaped like an inverted circular cone, such as the one shown here. The particular hopper for this question will be assumed to be 6 meters tall and 2 meters wide. If the aggregate enters the mixture at a rate of $2\text{ cm}^3/\text{s}$, and there the current height of the aggregate is 0.75 meters, how quickly is the height decreasing?

