

Drill Handout    Section 3.11    October 24, 2019    Name: \_\_\_\_\_

- (1) The sides of a rectangle are related so that the long side is twice the length of the short side. Assume the short side is growing at 1 m/min.
- (a) At what rate is the area of the rectangle changing when the short side is 10 m long?
- (b) At what rate is the area of the rectangle changing when the long side is 10 m long?
- (c) At what rate is the length of the diagonal changing?
- (2) A little boy dropped his ice cream cone on a hot day. The ice cream landed and squished into a cone with a base that is a circle of diameter 10 cm and a height of 5 cm. The hot sun is melting the ice cream so the diameter of the base is shrinking at 1 cm/min and the height of the ice cream is shrinking at 0.4 cm/min. How long is it until the ice cream is just a puddle on the ground? How fast is the volume decreasing at this time?