1. **(6 points)** A frozen pizza which is 25°F is put into a 425°F oven. After 5 minutes it has warmed to 75°F. Produce a function $f(t)$ modeling its temperature after t minutes.

2. **(7 points)** Approximate the following quantites as accurately as possible using a well-chosen linear approximation method. Your answer should be expressed as a decimal or a fraction.

   (a) **(3 points)** 2.03^4.

   (b) **(4 points)** $15.95^{3/2}$.

3. **(7 points)** A radio antenna is 12 miles east of Mitchell's house. He is currently 9 miles south of home, walking north at 4 miles per hour.

   (a) **(5 points)** How quickly is his distance from the radio tower changing?

   (b) **(2 points)** How quickly will his distance from the radio tower be changing an hour from now?

4. **(2 point bonus)** If $f(x)$ is a continuous, differentiable function with exactly two local maxima, is there a largest number of local minima that $f(x)$ can have? Explain why.