The following is a demand function that has been estimated for a monopolistically competitive

 firm.

 *Q = 320 – 2P*

 If the firm’s *TVC* function is

 *TVC* = *40Q – 1.5Q2 +1/3 Q3*

 Total fixed cost = $500

 a. How much should the firm produce in order to maximize profit?

 b. What is the maximum profit that the firm can generate at the output level(your answer in a)?