[a] 18. Mike's Bicycle Factory builds specialty bicycles with the following long-run cost function: $TC = 2.5(Q^3)$. Plot Mike's ATC and MC curves for quantities 1 through 5.

   a. For which quantities does Mike's Bicycle Factory exhibit economies of scale?
   b. For which quantities does it exhibit diseconomies of scale?
   c. Derive marginal cost for the cost function using calculus.
   d. For which values of Q is marginal cost as expressed in part (c) increasing?