5) You know that the inverse demand curve is defined by the following function: p=100-5\*q.

* 1. Use the bisection rule to define the marginal revenue curve
  2. If total cost is defined by 10\*q, then you know MC is 10 for all possible levels of q. What is the value of Average Cost? Explain.
  3. At what q do marginal cost and marginal revenue cross?
  4. What is the selling price for a monopolist?
  5. Why is the firm not better off setting q=0 and shutting down rather than producing at the q you noted in (c)? Explain your reasoning briefly

1. Continue with the inverse demand curve p=100-5\*q and the MC=10 supply curve from problem (5). Assume the market for this commodity has become a perfectly competitive market.
   1. What are the market price and quantity in the market if all firms in the competitive market have identical cost structures to the monopoly firm (MC=10 for all units of q produced) and the inverse demand curve is p=100-5\*q?
   2. Show the competitive case in comparison to the monopoly case on a single graph.
   3. Calculate the values for the following table.

|  |  |  |
| --- | --- | --- |
|  | Monopoly | Perfect Competition |
| Consumer Surplus |  |  |
| Producer Surplus |  |  |
| Deadweight Loss |  |  |
| Total Social Welfare |  |  |