**Question 1.**

A monopolist can produce at constant average and marginal costs of AC=MC=5. The firm faces a market demand curve given by . The monopolist’s marginal revenue curve is given by .

1. Calculate the profit-maximizing output and price combination for the monopolist. Also calculate the monopolist’s profits and consumer surplus.
2. On a graph, indicate the monopoly equilibrium and compare it to the perfect competition equilibrium.
3. Calculate the producer and consumer surplus under monopoly. Compare them to the case under perfect competition, and finally calculate the dead weight loss associated with the monopoly.