First Quiz Answers

1. Arctic_a.

(a) Since there is no regulation or other intervention in this market, it will just operate where supply (marginal private cost) equals demand (marginal private benefit). This is the left hand vertical quantity in the diagram.

Private consumer surplus is area $A + B + C$. Private producer surplus is area $E + F + G$. The total amount of external pollution cost is $B + C + D + F + G$. Deadweight loss is area $D$.

(b) If the market is completely shut down, then all the private gains from trade, $A + B + C + E + F + G$ are lost. But there is also no pollution, so there is a gain of $B + C + D + F + G$. If we add this up, there is a net loss of $A + E - D$. Given how the graph is drawn, it appears that the private gains $A + E$ outweigh the deadweight loss $D$, so shutting down this market is not a good idea. In general, shutting down any market is not as good a policy as regulation to shift output to the level where marginal social cost equals marginal social benefit. In this diagram, the best possible policy is one which removes $D$ but leaves $A + E$ intact.

(c) We know that it is possible to make an operating profit from this market just because the demand curve is higher than the supply curve for some quantities. But fixed costs may be very high, so when we draw in the AC curve, it may be shifted up very high:
It’s important that no portion of the AC curve be lower than demand, because apparently not even the monopoly profit maximizing price is high enough to turn a profit, and thus no firms operate in this market.