TA Section Problems #2
(Week of Monday, October 7)

# Your friendly neighborhood monopolist

Demand for internet in Dixon, CA is given by $p(Q) = 120 - \frac{1}{10}Q$. Comcast can supply $Q$ households with internet access at a total cost of $C(Q) = 20Q$.

a. If Comcast sets the price of internet as though it were a competitive firm, what would it charge for internet $(p_c)$? How many households would get internet $(Q_c)$?

b. If Comcast engages in uniform monopoly pricing, what price will it charge $(p_m)$? How many households will get internet $(Q_m)$? Compute the deadweight loss.

c. Governments often regulate monopolies by setting price ceilings that limit what they may legally charge. How many households will get internet if Dixon sets

    i. a price ceiling equal to 100?

    ii. a price ceiling equal to 19.99?

    iii. a price ceiling equal to 20.01? (An approximate answer is fine here.)

    iv. a price ceiling equal to 60?

# Bowling alone

An entrepreneur is deciding whether to open a bowling alley in a small town. Building the alley requires a fixed cost $FC$ up front. If she builds the alley, the entrepreneur faces demand $p(Q) = 18 - 2Q$ and has a constant marginal cost of 2. If she doesn't build it, she gets 0.

a. Suppose that the entrepreneur would be a uniform-pricing monopolist. If she opens the alley, how much <u>revenue</u> will she make? For what value of $FC$ is she indifferent about opening it?

b. Now suppose she can engage in perfect price discrimination. If she opens the alley, how much <u>revenue</u> will she make? For what value of $FC$ is she indifferent about opening it?

# Zoom zoom zoom

Demand for electric scooters is given by $p(Q) = \sqrt{16 - Q}$.

a. Calculate the price elasticity of demand as a function of $Q$.

b. Compute the elasticity when $Q = 0$ and when $Q = 16$. What terms do we use to describe these elasticities? At what quantity is demand unit elastic?