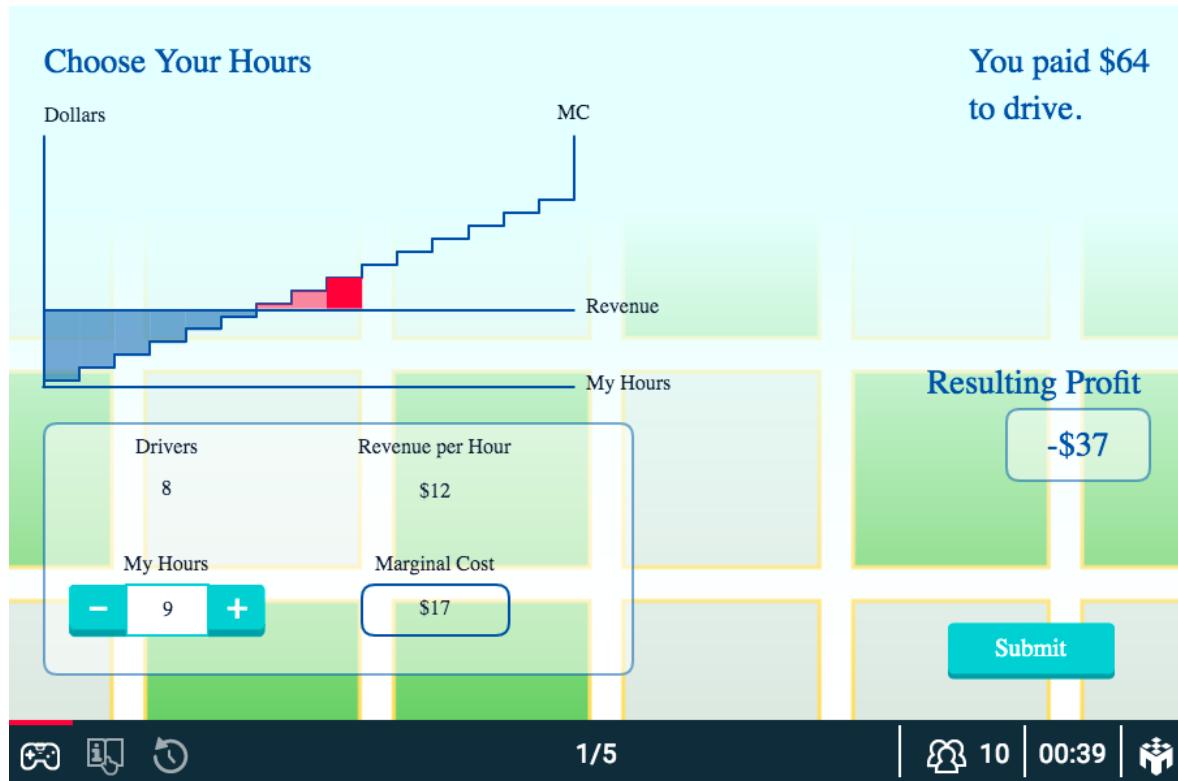


## Perfect Competition



1. Start by labeling the important components of the perfect competition market structure shown in the picture above. What is the goal of a firm? Where is marginal revenue and why is it constant? Where is marginal cost? What does the blue shaded area represent? What does the red shaded area represent?

2. In the experiment with “Mobdrive”, to drive you needed to incur a fixed cost equal to \$64 (as shown on the picture above) and your variable cost was  $q^2$ . Graph the AVC and MC curves. What does this imply about when the firm will shut down?

3. Is it possible for the firm to lose money but still make the correct short-run quantity decision?

4. If a perfectly competitive market is in its long-run equilibrium, what must be true?

5. One other way of stating this is that the price equals the minimum of a firm's Average Total Cost (or Average Cost) curve  $P = ATC$  which implies that  $PQ = TC$  (or  $TR=TC$ ). Armed with that knowledge and that  $TC = 64 + q^2$ . What is the break-even price?

6. If demand is  $P = 88-Q$ , how many units are transacted at this break-even price?

7. Given that we know how much each firm releases to market, and the total market quantity, in our long-run equilibrium, how many firms are there in this market?

8. In the short run, suppose there is a negative demand shock and demand falls to  $P = 72 - Q$ . In the short run, calculate the profits of those firms in the market. (To make life easier, once we find the equilibrium market price, we will round to the nearest integer and assume firms make symmetric output decisions).

9. In the long-run when firms have the ability to exit, how many firms will there be in this market?

10. To help see more clearly what has been happening with the algebra, let's do some graphical analysis.

- a. We start by drawing two graphs side-by-side. The left-most graph is your standard supply and demand diagram. The right-most graph is a graph of the firm's cost structure. Think carefully about what these must look like in order for the long-run equilibrium to prevail.
- b. Suppose there is a negative demand shock. This will impact the left-most graph. But, in the short-run it will have no bearing on firm's cost structure. What happens?
- c. Given what you found in part (b), if firms are exiting the market due to losses, what will happen to the supply curve in the long-run?
- d. Does this adaptation observed in (b) and (c) communicate something special about markets for the allocation of scarce resources? How would a similar process work in political systems?

11. While people are purposive actors, people also make mistakes. Sometimes those mistakes are predictable. One predictable mistake behavioral economists have found in decision-making is overconfidence. Scholars have identified three kinds of overconfidence. First, people tend to overestimate their own abilities. Second, people tend to believe themselves to be better than others. Finally, people tend to have excessive certainty about how accurate their beliefs are. Do you think over-entry in this game can be attributed to overconfidence? If so, what kind of overconfidence would explain over-entry here? Explain.

12. What was the most important thing you learned today? What questions still remain in your mind?