Illustrating profits through cost curves

In microeconomics, an effective way to visualize benefits is through a cost diagram that includes the average cost (AC) and marginal cost (MC) curves. This approach is useful in both perfect competition and monopoly contexts. The calculation of benefits is generally taken by subtracting costs from revenues:

$$\text{Benefit} = \text{Revenue} - \text{Costs}$$

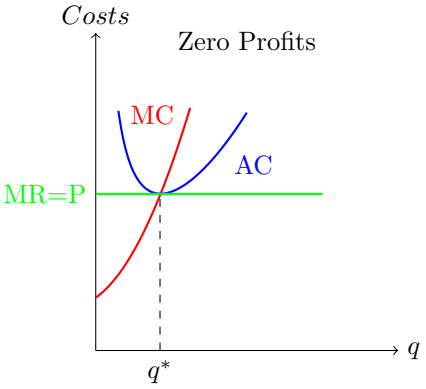
But another way to calculate it is by subtracting the average cost from the price and multiplying by the equilibrium quantity:

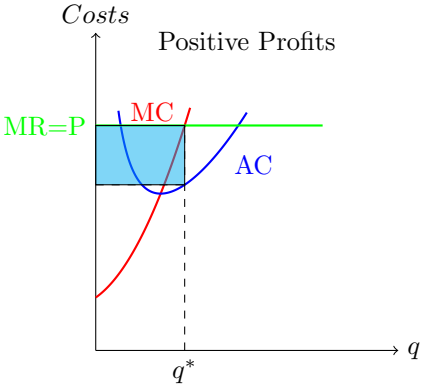
$$\text{Benefit} = (\text{Price} - \text{Average Cost}) \times \text{Quantity}$$

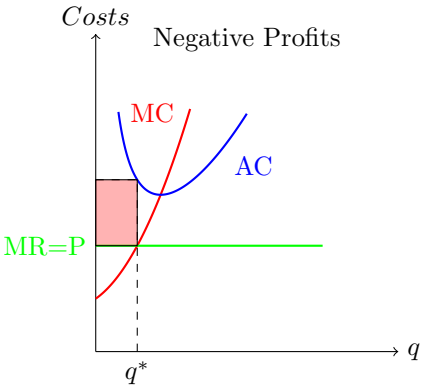
This second form can be graphically represented in the cost curves of a firm.

Perfect Competition

First, we find the point where marginal cost equals marginal revenue, then we take the area between the average cost and the price, below are 3 situations where there are zero, positive, and negative benefits. The height of the rectangle is $P - AC$ and the length is the equilibrium quantity q^*.







Monopoly

For the case of monopoly, it is similar, first we find the point where marginal cost crosses marginal revenue, then we calculate the area between the average cost and the price set by the monopolist. The height of the rectangle is $P - AC$ and the length is the equilibrium quantity q^*.