Parabolas for Profit – Seaside Scoops (Draft 3 of 4)

Student: Alex R.

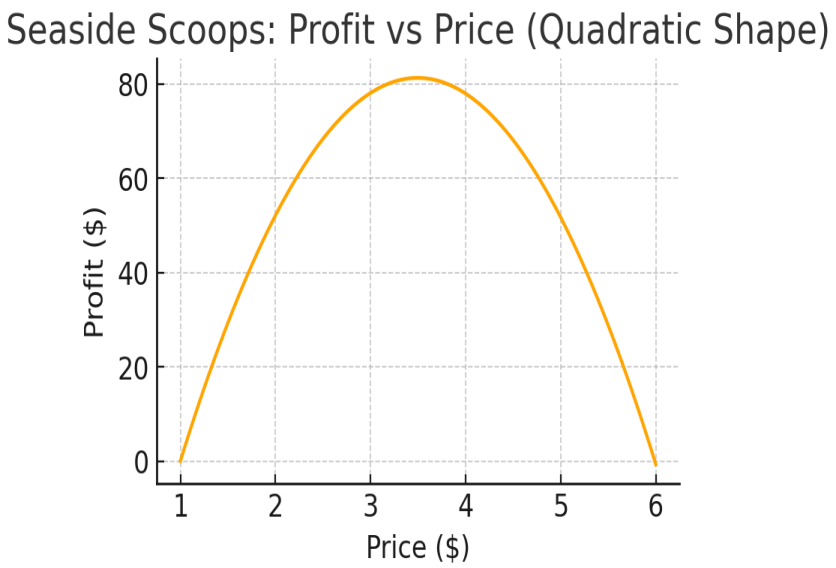
Overview: This week I learned that profit graphs look like parabolas. When price gets too high, demand drops, so profit goes down again. I used regression to make a line for demand and then multiplied it by (price - cost) to find profit.

Survey Data Table:

Price ($)	Demand (people)
1	70
2	50
3	38
4	20
5	12
6	5

Demand vs. Price (with Linear Regression)

Profit Function (Quadratic Shape)



Summary: The curve goes up until around $3, then goes down again. That means the best price might be $3. The vertex is the highest point. I did not include fixed costs yet, but I think they only move the graph down a bit.

Teacher Feedback:

- Excellent improvement: regression direction correct, quadratic shape evident.
- Still missing fixed cost subtraction from profit equation.
- Needs explicit formula written (P(p) = (p - c)(m·p + b) - F).
- Vertex should be calculated precisely, not guessed visually.
- Stronger explanation of what the vertex means in real-world terms.