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| **Cornell Notes** | **Topic/Objective:** Unit 2: Modeling a Business | | | **Name:** |
| Chapter 2.5: Graphs of Expense & Revenue | | | **Class/Period:** |
| Functions (p.86 - 89) | | | **Date:** |
| **Essential Question:** How can expense and revenue be graphed to highlight the relationship between price, demand, | | | | |
| expense, and revenue? | | | | |
| **Questions:** | | **Notes:** | | |
| What is the equation of a | | Equation: | | |
| second-degree (quadratic) | |  | | |
| revenue function? | |  | | |
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| What makes the revenue | | Draw the graph: The parabola opens downward | | |
| function open downward? | | because… | | |
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| What is the vertex of the | | Show the vertex on a graph: The vertex is the place where… | | |
| revenue function? | |  | | |
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| What is the axis of | | Draw the graph: The point at which the axis of symmetry | | |
| symmetry of a parabola? | | passes through the horizontal axis is | | |
|  | | calculated by: | | |
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| **Summary:** | | | | |
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| **Questions:** | | | **Notes:** | |
| How do you write the revenue | | | **Example 2:** The demand function is: *q = – 500p + 30,000* | |
| function in terms of price? | | | *Revenue = pq* | |
|  | | | *Revenue = p(– 500p + 30,000)* substitute in for *q* | |
|  | | | *Revenue =*  distribute | |
|  | | | *Revenue =*  simplify | |
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| How do you graph the revenue | | | **Example 3:** The parabola opens downward. Why? | |
| function? | | |  | |
|  | | | Where does the axis of symmetry cross the horizontal axis? | |
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|  | | | What is the vertex of the parabola (maximum value of revenue)? | |
|  | | | *Revenue =*  revenue equation | |
|  | | | *Revenue =*  substitute p = 30 | |
|  | | | *Revenue =*  simplify | |
|  | | | Interpret this value: When the price is $30, the maximum revenue is $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | |
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| How do you interpret the points | | | Example 4: If the expense and revenue functions intersect at p = 8.08 and p = 58.92, | |
| of intersection between the | | | interpret the meaning of these intersection points & copy the graph from the book. | |
| expense & revenue functions? | | | price  dollars | |
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| **Summary:** | | | | |
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