

NAME: _____

- The French Bakery sells more croissants when it reduces its price. The profit is modeled by the function $y = -0.2(x - 60)^2 + 150$, where x is the number of croissants sold per day. What is the maximum profit the bakery can make?
- The daily profit of a custom T-shirt shop can be modeled by $P(n) = -n^2 + 60n - 400$, where n is the number of T-shirts produced each day and $P(n)$ is the profit made on that number. Rewrite this function in vertex form and determine the maximum daily profit.
- Compare the quantity in Column A with the quantity in Column B.
 $f(x) = -2(x + 3)^2 - 5$

<u>Column A</u>	<u>Column B</u>
maximum value of $f(x)$	$f(3)$

[A] The quantity in Column A is greater. [B] The quantity in Column B is greater.

[C] The two quantities are equal.

[D] The relationship cannot be determined on the basis of the information supplied.

[1] \$150

[2] $P(n) = -(n - 30)^2 + 500$; \$500 is the maximum profit.

[3] A