**8.** [8 points]  Percy sells tomatoes from his uncle's farm at the farmer's market. The following table shows the price $P(w)$ in dollars he charges for $w$ pounds of tomatoes.

| $w$ | 2 | 5 | 10 |
|---|---|---|---|
| $P(w)$ | 5 | 10 | 16 |

**a.** [3 points]  Find the average rate of change of $P(w)$ between $w = 5$ and $w = 10$. Include units.

The average rate of change between $w = 5$ and $w = 10$ is _____

**b.** [3 points]  Could $P(w)$ be concave up, concave down, or is neither of these possible? Write your answer in the blank provided, **and** write one sentence explaining your answer.

$P(w)$ could be _____

**c.** [2 points]  The average rate of change of $P(w)$ between $w = 1$ and $w = 4$ is 2. Which of the following is a valid practical interpretation of this average rate of change? Circle your answer.

  (i)  If a customer purchases between 1 and 4 pounds of tomatoes, the cost, on average, is \$2 per pound.

  (ii) Each pound of tomatoes purchased between 1 pound and 4 pounds costs \$2.

  (iii)  If a customer is purchasing between 1 and 4 pounds of tomatoes, and she decides to buy a little more, she will be charged, on average, \$2 per pound for the additional amount she buys.

  (iv) Four pounds of tomatoes, on average, cost \$2 more than one pound of tomatoes.