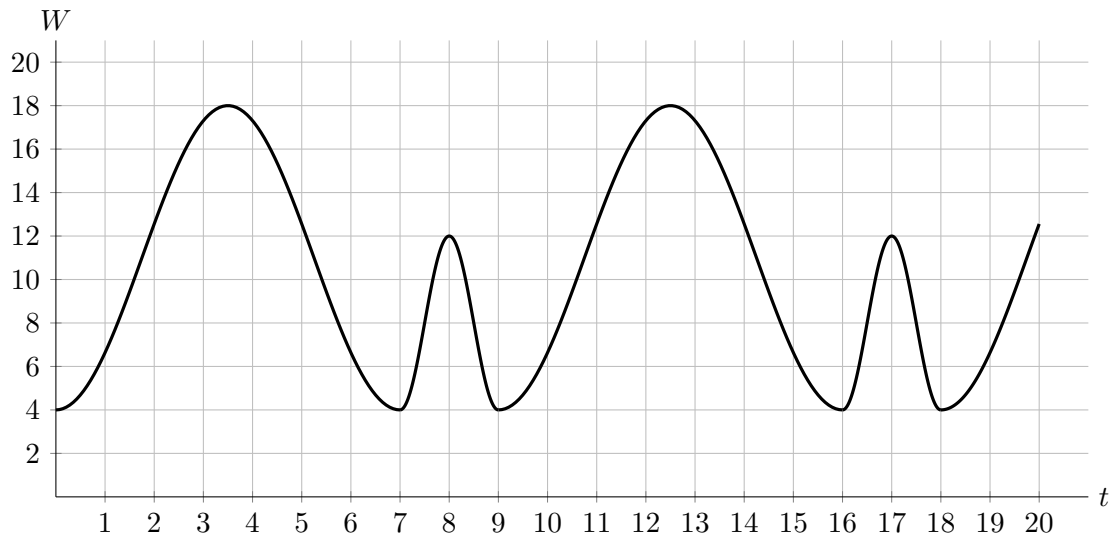


2. [11 points] As the Smashing Squash are touring, their merchandise varies in value in a way that can be modeled by a periodic function. Let $W = P(t)$ be the value (in thousands of dollars) of an autographed vinyl record at time t (in months). Suppose that $P(t)$ is a periodic function with period less than 18 months. Part of the graph of $W = P(t)$ is shown below.



You do not need to show work for this problem.

- a. [1 point] Find the average rate of change of $P(t)$ between $t = 8$ and $t = 16$.

Answer: _____

- b. [2 points] Find the period of $P(t)$. **Include units** in your answer.

Answer: _____

- c. [2 points] Find the amplitude of the function $P(t)$. **Include units** in your answer.

Answer: _____

- d. [2 points] Find the equation of the midline of the function $P(t)$.

Answer: _____

- e. [2 points] Find the smallest value of t that satisfies $t > 20$ and at which point the record has a value of \$4,000.

Answer: _____

- f. [2 points] Let $k(t) = -100P(2t)$. What is the period of $k(t)$?

Answer: _____