

7. [10 points] Let $P(r)$ be a periodic function, defined for all real numbers r , where

- $P(r)$ has period 8
- $P(r)$ has midline $y = 4$
- $P(r)$ has amplitude 6.
- $P(r)$ attains its minimum value at $r = 5$.

a. [4 points] Fill in each blank with an appropriate value in the following table using the information about $P(r)$ given above.

r	-5	4	5	12
$P(r)$	7	6		

b. [2 points] What is the value of $P(2019)$?

If it's not possible to find the value, write "NOT POSSIBLE." Circle your final answer.

c. [1 point] What is the maximum value attained by $P(r)$?

If it's not possible to find the value, write "NOT POSSIBLE." Circle your final answer.

d. [3 points] Can you tell for sure at which r -coordinates $P(r)$ attains its maximum? If so, give one such value and briefly explain your answer. If not, briefly explain why.