 How Many Canoes Are Available?

A canoe rental livery rents out canoes to customers to use on a nearby river. The livery has 80 canoes available. The rate of change of the number of canoes available at the livery on a Saturday can be modeled by the function for , where is measured in canoes per hour, and is measured in hours since the livery opened. The graph of is shown.



1. What does it mean in this context if is below the -axis?
2. What does it mean in this context if is above the -axis?
3. The function is defined as .
	1. Find . Interpret your answer in the context of this problem.
	2. Find . Interpret your answer in the context of this problem.
4. Write an equation for and find . Interpet your answer in context.
5. When is the number of canoes available decreasing? How do you know?
6. When is the number of canoes available at a minimum? Justify your answer.
7. When is the number of canoes available increasing at a decreasing rate? Justify your answer.

Lesson 6.6 – Justifying Behavior of Accumulation Functions

QuickNotes

Check Your Understanding

1. Let be a function defined for . The graph of is shown. Let .
	1. Find and .
	2. Find all values of on the open interval where has a relative minimum. Justify your answer.
	3. On which interval(s) is the graph of concave up? Justify your answer.
	4. For which values of does have a point of inflection? Justify your answer.

* 1. For which value of does the graph of have an -intercept? Explain.