

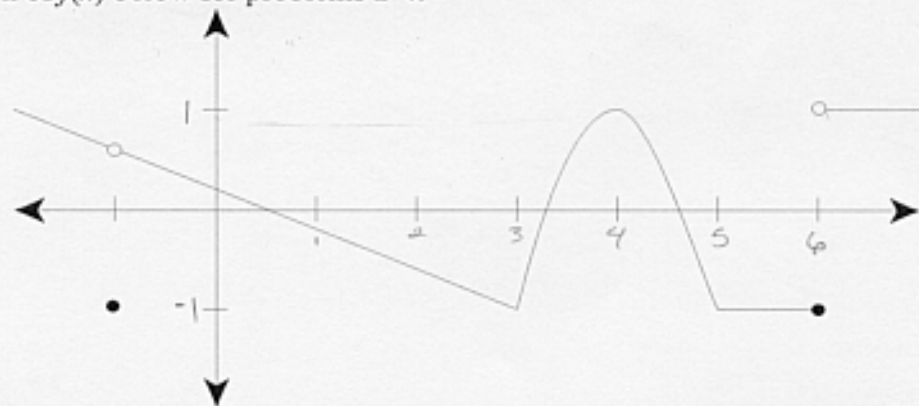
Each problem is worth 5 points. For full credit provide proper justification for your answer.

1. Scientific tests are being performed on a weasel to determine the efficiency of its kidneys. 20mg of acetaminophen are injected into the weasel, and an hour later the tests show that 12mg remain in its system. If the amount of the drug is decaying exponentially, find a formula for the amount after t hours have passed.

$$D = 20(.6)^t$$

20 mg is the initial amount injected into the bloodstream. If 12 mg remains after 1 hour, then only .6 of the previous ^{hour's} amount will remain in the bloodstream after each hour passes. Exactly! To factor in the number of hours, the quantity is raised to "t" number of hours. Finally the equation is set equal to variable "D", the amount of drug in the weasel's bloodstream.

Use the graph of $f(x)$ below for problems 2-4:



2. What is $f(6)$? $f(6) = -1$ The value which is included @ $f(6)$

3. What is $\lim_{x \rightarrow 6^+} f(x)$? $\lim_{x \rightarrow 6^+} f(x) = 1$ Coming from the right the value it approaches

4. What is $\lim_{x \rightarrow 6} f(x)$?

$\lim_{x \rightarrow 6} f(x)$ Does Not Exist

There are 2 different limits depending on the direction so there isn't just 1 limit for 6

Excellent!