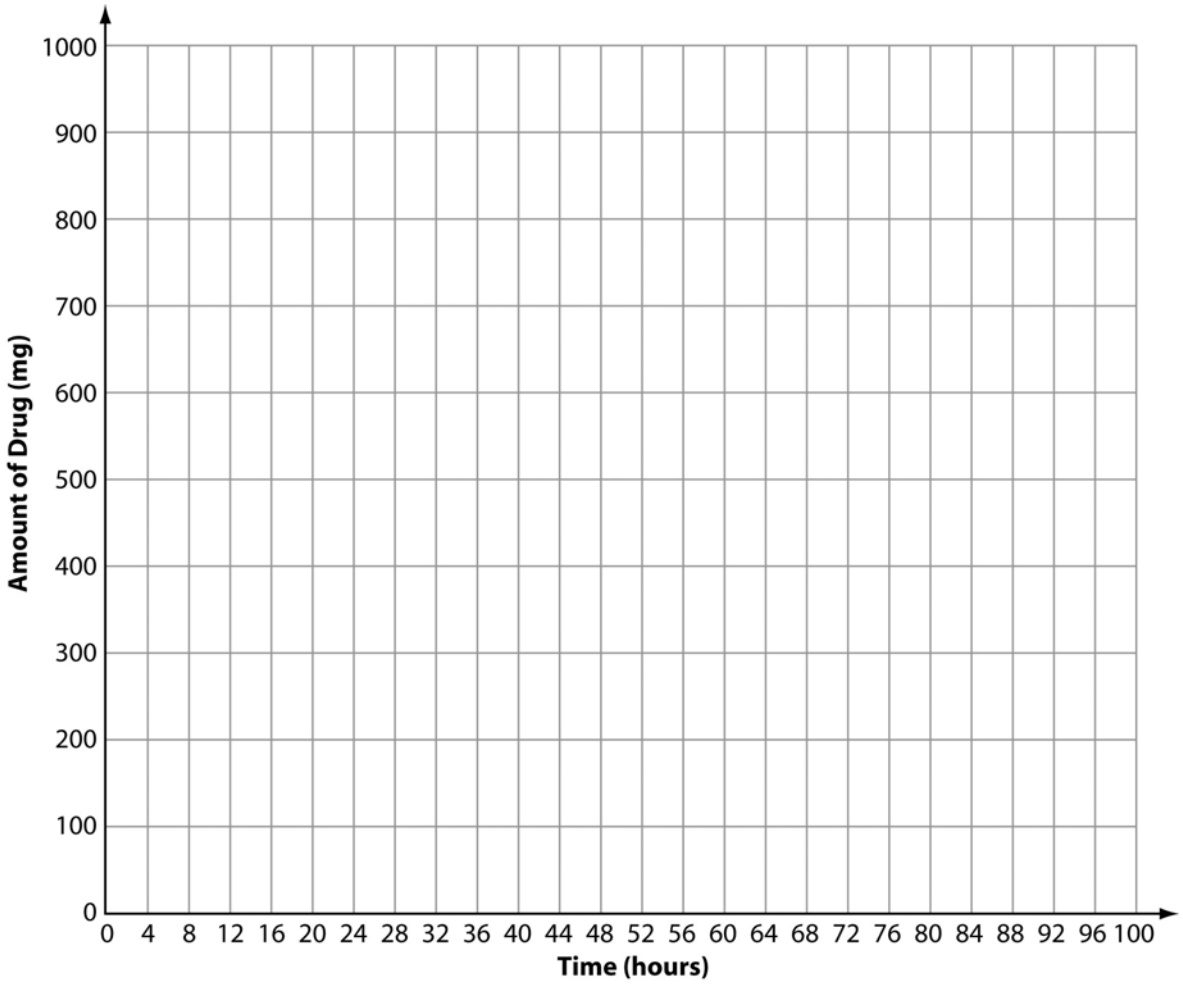
Drug Filtering

NAME_____

1. Assume that your kidneys can filter out 25% of a drug in your blood every 4 hours. You take one 1000-milligram dose of the drug. Fill in the table showing the amount of the drug in your blood as a function of time. The first two data points are already completed. Round each value to the nearest milligram.

TIME SINCE TAKING THE DRUG (HR)	AMOUNT OF DRUG IN YOUR BLOOD (MG)
0	1000
4	750
8	
12	
16	
20	
24	
28	
32	
36	
40	
44	
48	
52	
56	
60	
64	
68	

2. Graph the data below.



3. How many milligrams of the drug are in your blood after 2 days?

4. Will you ever completely remove the drug from your system? Explain your reasoning.

5. A blood test is able to detect the presence of the drug if there is at least 0.1 mg in your blood. How many days will it take before the test will come back negative? Explain your answer.