7. In an experiment, rats averaging 300 g of body mass were tested several times over a three-month period. For each individual rat, urine was collected over a three-hour period after ingestion of 10 mL of liquid (water, 1% ethyl alcohol solution, or 5% ethyl alcohol solution). The volume of urine was then measured, and the results were averaged for all individuals within each experimental group. The data are shown in the table below.

THREE-HOUR URINE OUTPUT FOLLOWING FLUID INGESTION

Fluid ingested (10 mL)	Water	1% Ethyl Alcohol	5% Ethyl Alcohol
Average urine output (mL)	3.5	3.8	4.7

(a) **Pose** ONE scientific question that the researchers were most likely investigating with the experiment.

(b) **State** a hypothesis that could be tested to address the question you posed in part (a).

(c) Using the data in the table, **describe** the effect of ethyl alcohol on urine production.

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Question 7

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Fluid ingested (10 mL)	Water	1% Ethyl Alcohol	5% Ethyl Alcohol
Average urine output (mL)	3.5	3.8	4.7

(a) **Pose** ONE scientific question that the researchers were most likely investigating with the experiment. (**1 point**)

Appropriate questions include but are not limited to the following:

- How does alcohol consumption affect urine output in rats (or any mammal)?
- How does alcohol consumption affect regulation of the kidney?

(b) **State** a hypothesis that could be tested to address the question you posed in part (a). (**1 point**)

Appropriate hypotheses include but are not limited to the following:

- Alcohol consumption increases urine output in rats.
- Alcohol consumption increases water retention/reabsorption in rat kidneys.
- Alcohol consumption reduces urine output in rats.
- Alcohol consumption has no effect on urine output in rats.

NOTE: This point may be earned without earning the point in part (a)

(c) Using the data in the table, **describe** the effect of ethyl alcohol on urine production. (**1 point**)

- Alcohol consumption increases urine output.