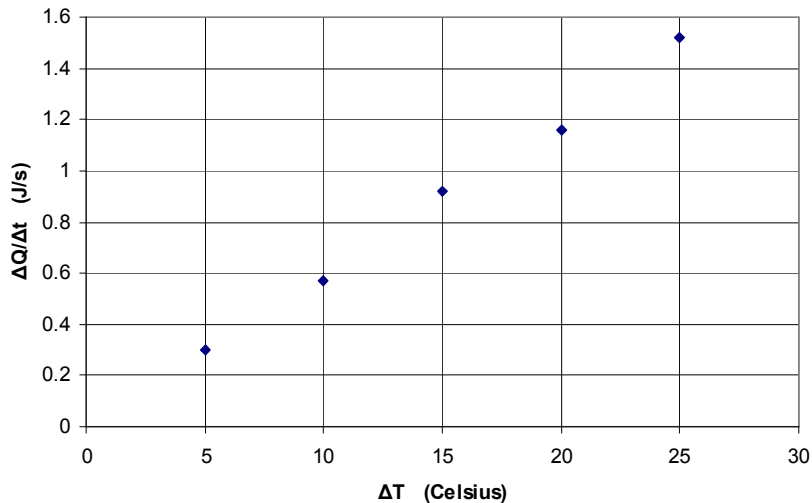


NAME: \_\_\_\_\_

1) Why portable coolers are often made of styrene foam?

2) A bar with cross-sectional area  $A = 0.5\text{cm}^2$  is used to conduct heat between two regions at different temperature. The bar is made of silver,  $k = 417 \text{ W}/(\text{m}\cdot\text{K})$ . The figure below shows the rate of heat flow as the temperature difference between these two regions is increased. Find the length of the silver bar.



3) In Q2, if the length of the bar is doubled what would be the new slope for a graph of rate of heat flow vs. temperature difference?