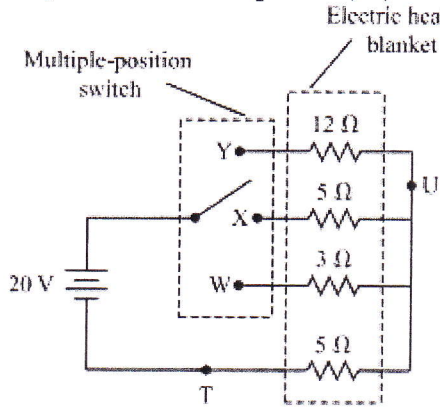


MCAS OPEN RESPONSE # 11: Electromagnetism

Standard: 5.3 - Analyze simple arrangements of electrical components in both series and parallel circuits. Recognize symbols and understand the functions of common circuit elements (battery, connecting wire, switch, fuse, resistance) in a schematic diagram.

The diagram below shows a simplified schematic for an adjustable electric heating blanket. The switch may be connected to point W, X, or Y depending on the desired level of warmth.



- Calculate the current generated in the blanket when the switch is connected to point X. Show your calculations and include units in your answer.
- Calculate the power generated in the blanket when the switch is connected to point X. Show your calculations and include units in your answer.
- Explain why a fuse at point T would be more effective in this circuit than a fuse at point U.
- Identify which point the switch should be connected to in order to generate the most warmth. Explain your answer.