- Its mass will stay the same, as no iron is being added or taken away.
- Since $density = \frac{mass}{volume}$, the density will decrease.

A is incorrect as mass remains constant, as no iron is being added or taken away.

C is incorrect as volume **increases**, it does not decrease.

D is incorrect as the block's internal energy will **increase** as its temperature rises; it does not decrease.

4

The correct answer is **B** because:

- When metals become warm, they expand. When metals become cold, they contract.
- If the wire is already tight between the pylons, then any contraction of the wire could cause it to break.

A is incorrect as this could, and would happen if the weather became **warmer**, not colder.

C is incorrect as the temperatures over which weather can change are not likely to make the wire brittle enough to break.

D is incorrect as the wire does contract, but, if anything, its resistance would **decrease**, as resistance falls with temperature.

5

The correct answer is **A** because:

- The total energy stored inside a system is due to the particles that make up that system having motion and positions relative to each other
  - This is the internal energy of a substance

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