4 A student applies a potential difference V of $(4.0 \pm 0.1)\,\text{V}$ across a resistor of resistance R of $(10.0 \pm 0.3)\,\Omega$ for a time t of $(50 \pm 1)\,\text{s}$.

The student calculates the energy E dissipated using the equation below.

$$E = \frac{V^2 t}{R} = \frac{4.0^2 \times 50}{10.0} = 80\,\text{J}$$

What is the absolute uncertainty in the calculated energy value?

A 1.5 J **B** 3 J **C** 6 J **D** 8 J