Answer on Question #78019, Chemistry / General Chemistry

If 2.5 kJ of energy are absorbed, how many grams of Silver are required if the temperature of the Silver was increased by 7.5 oC? (The specific heat of Silver is 0.2330 J/goC.)

A. 1.43 g
B. 14.3 g
C. 142.9 g
D. 1,428.6 g
E. None of the Above

$$Q = c * m * \Delta t,$$

where
Q is the heat energy;
c= the specific heat of Silver is 0.2330 J/goC;
m= the mass of the object/substance;
Δt= the change in temperature in °C.

$$m = \frac{Q}{c * \Delta t},$$

$$m = \frac{2,500 J}{0.2330 J/g°C * 7.5°C} = 1,428.6\ g$$

ANSWER:D.