

Let:

$$S = 0.1 \text{ m}^2$$

$$d = 2.0 \text{ cm} = 0.02 \text{ m}$$

$$T_1 = 0^\circ\text{C}$$

$$T_2 = 20^\circ\text{C}$$

$$k = 50.4 \text{ J/sm}^\circ\text{C}$$

$$t = 30 \text{ min.} = 1800 \text{ second}$$

$$Q = ?$$

The quantity of heat is:

$$Q = t * k \frac{S\Delta T}{d} \text{ (Fourier's law)}$$

$$\Delta T = T_2 - T_1 = 20^\circ$$

Enter a data:

$$Q = 1800 * 50.4 \frac{0.1 * 20}{0.02} = 9072000 \text{ J} = 9.1 * 10^6 \text{ J}$$

Answer: "A"