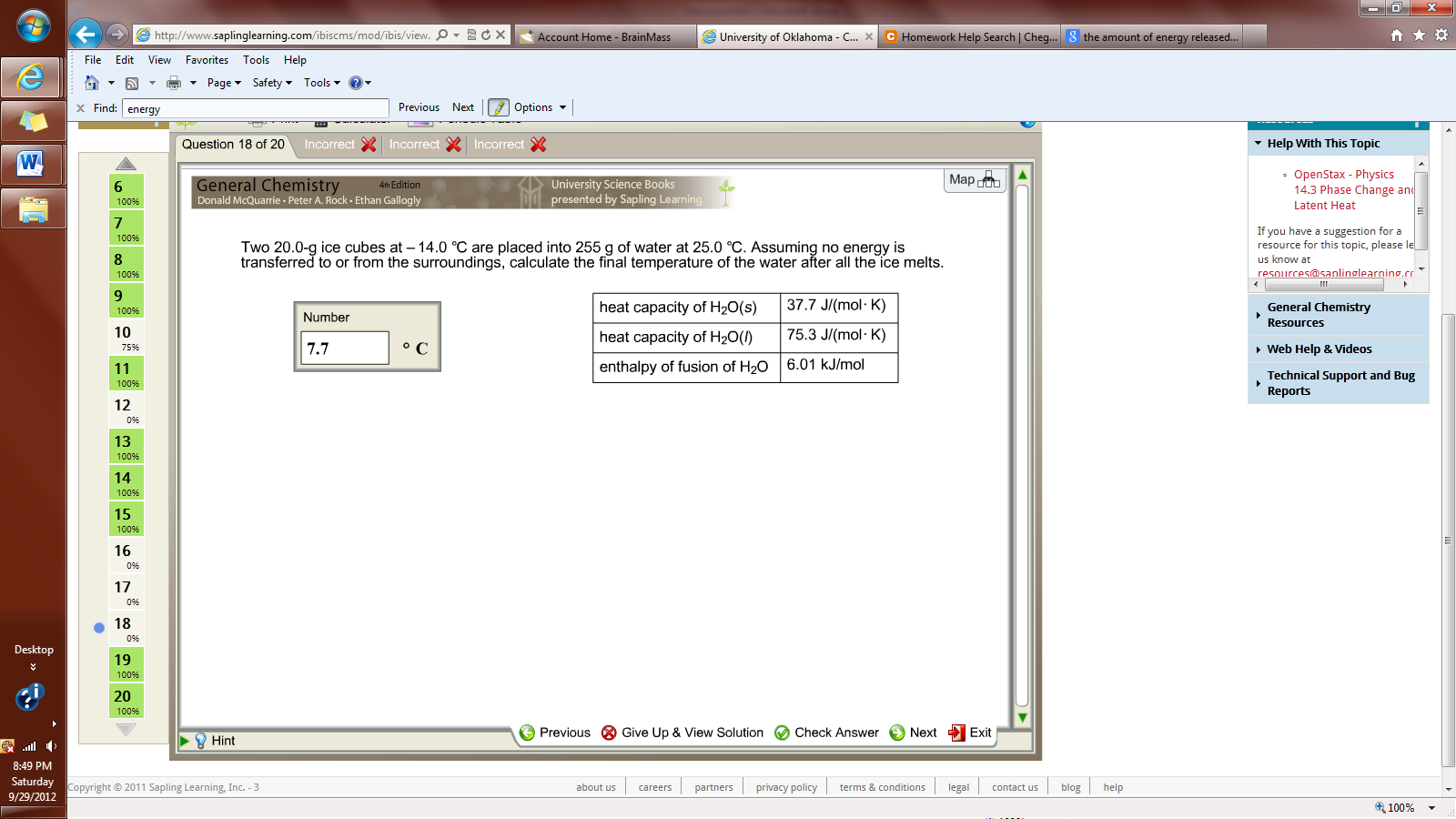
HWU3-18

QUESTION:

Two 20.0-g ice cubes at –14.0 °C are placed into 255 g of water at 25.0 °C. Assuming no energy is transferred to or from the surroundings, calculate the final temperature of the water after all the ice melts.



ANSWER: \_\_\_\_\_\_\_\_\_\_ ◦C

HINT:

One way to solve this type of problem is to express the total heat exchange as one giant formula. In this case, the final temperature is the only unknown value.

heat needed to warm heat needed to heat needed to warm heat released to cool

40.0 g of ice to 0 ◦C + melt 40.0 g of ice + 40.0 g of water to the = 255 g of water to the

final temperature final temperature