

Assignment Heat Transfer and Heating Curves

Due: May 13, 2020

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Name:

1. Horace the duck is taking a bath. He fills a tub with 45 kg of water at 46°C. This is a little too warm for Horace so he thinks to add some water at 10°C, to bring the temperature of the bath to down to 35°C. How much water will Horace have to add to the tub? If the tub will hold 55 kg of water will he be able fill the bath without it overflowing? [5 marks]



2. Calculate the *total* amount of heat required to raise the temperature of 55 kg of ice from -16°C to a vapor at 118°C. [5 marks] (Hint: $E_H = E_1 + E_2 + E_3 + E_4 + E_5$)