Name_____ Period _____ Date_____

Quiz 14:1D Temperature & Calorimetry

1. A pot of tea [c_{water} = 4.19 J/gm^{o}C] sitting on the kitchen table contains 750 grams of water at a temperature of 188^{o}F.
   a. What is the corresponding temperature of this pot of tea on the Kelvin scale? [3 pts]

   b. How much heat would be needed to bring this pot of tea to the boiling point? [3 pts]

2. A silver ball [c_{lead} = 0.236 J/gm^{o}C], which has a mass of 425 grams, is immersed in a beaker of cooking oil at a temperature of 165^{o}C. The ball is quickly removed from the cooking oil and is immediately immersed into an insulated cup containing 95 grams of cooking oil [c_{oil} = 2.05 J/gm^{o}C] at 28.0^{o}C.
   a. What is the initial temperature of the hot cooking oil on the Fahrenheit scale? [3 pts]

   b. What will be the temperature of the lead ball after thermal equilibrium has been reached? [6 pts]

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