**Table 1**

|  |  |  |
| --- | --- | --- |
|  | Trial 1 - metal | Trial 2 – rubber stopper |
| Mass of object |  |  |
| Mass of cup |  |  |
| Mass of cup + water |  |  |
| Temperature of tap water in the cup |  |  |
| Max temperature of hot water |  |  |
| Maximum temperature of water + cup + object |  |  |

**Skill 38.01 problem 1**

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| --- |
| 1. Convert 200. cal to joules 2. Convert 587 kJ to calories |
|  |

**Skill 38.02 Problem 1**

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| Which substance in table 1 requires the most energy to heat? How do you know? |
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**Skill 38.03 Problem 1**

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| Calculate the energy lost by the metal object for each trial. |
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**Skill 38.04 Problem 1**

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| A 22.0 g piece of metal was heated to 100oC in a beaker of boiling water. The hot piece of metal was placed in 100 g of water at 25oC. The metal and the water reached thermal equilibrium at 28oC. What is the specific heat of the metal? |
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**Skill 38.04 Problem 2**

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| (a) Calculate the specific heat of the metal for both trials.  (b) Average the specific heats for the two trials.  (c) Report this value to your instructor. |
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