Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_

**Q is for Quiz**

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| --- | --- | --- |
| cp gold = .129 J/(g  ˚C) | cp copper = .385 J/(g  ˚C) | cp tin = .288 J/(g  ˚C) |
| cp mercury = .140 J/(g  ˚C) | cp platinum = .133 J/(g  ˚C) | cp aluminum = .900 J/(g  ˚C) |
| cp silver = .235 J/(g  ˚C) | cp water = 4.184 J/(g  ˚C) | Cp steam = 2.01 J/(g•˚C) |

You must show your work for each problem or it will be counted wrong.

1-3. You have two pieces of metal that each has a mass of 75.0 g. One is silver and the other is gold and they both have a temperature of 23.6 ˚C. If you place them both on a hot plate for 2.35 minutes and each receives 5,350 J of thermal energy, what will the final temperature of each be?

Which one is hotter?

How much hotter is it?

4-5. A 65.3 g sample of a metal is heated up on a hot plate from 15.3˚C to 45.6˚C. If the sample absorbs 263 J of thermal energy, what is the specific heat of the metal?

What metal is it?

6. A piece of aluminum that is at a temperature of 45.1˚C is put into a refrigerator and loses 601 J of energy as it cools to a temperature of 16.7˚C. What is the mass of the aluminum?

7. If Harvey got into a hot tub full of water that has a temperature 102.3 ˚F, would Harvey’s body be considered exothermic or endothermic?

8.Would the Q-value of the water be positive or negative?

9. Why is mercury a liquid at room temperature and gold is a solid?

10. Which has more thermal energy, a mug of hot coffee or a swimming pool full of water? Explain.

Tell if these temperatures are possible and correctly written or not.

11. 631,898 ˚C

12. -272 ˚C

13. -3 K

14. What is 212 ˚F in ˚C?

BONUS: If G. Thasahot measures the specific heat of gold and gets a value of 0.135 J/(g˚C), what is his percent error?