Calculating Heat

Name: _____ **Date:** _____

1. The greatest amount of heat energy would be required to raise the temperature of a 1 gram sample of water from

   A. 10°C to 30°C B. 20°C to 30°C

   C. 30°C to 60°C D. 40°C to 60°C

2. A sample of water is cooled from 45°C to 25°C by the removal of 20 calories of heat. What is the mass of the water?

   A. 10 g B. 2.0 g C. 20 g D. 200 g

3. The number of calories needed to raise the temperature of 10 grams of water from 20°C to 30°C is

   A. 10 B. 20 C. 100 D. 40

4. The heat of vaporization for water is 540 calories per gram. What is the minimum number of calories needed to change 40.0 grams of water at 100°C to steam at the same temperature and pressure?

   A. 43,200 B. 21,600

   C. 540 D. 40.0

5. How many calories of heat energy are released when 50 grams of water are cooled from 70°C to 60°C?

   A. 10 calories B. 50 calories

   C. 500 calories D. 1,000 calories

6. The temperature of 15 grams of water increased 3.0 Celsius degrees. How much heat was absorbed by the water?

   A. 5.0 calories B. 12 calories

   C. 18 calories D. 45 calories

7. When 20 grams of water is cooled from 20°C to 10°C, the number of calories of heat released is

   A. 10 B. 20 C. 30 D. 200

8. A 10-gram sample of water would lose the greatest amount of heat when its temperature is changed from 50°C to

   A. 10°C B. 20°C C. 30°C D. 40°C

9. What is the maximum number of grams of water at 10°C that can be heated to 30°C by the addition of 40.0 calories of heat?

   A. 1.0 g B. 2.0 g C. 20 g D. 30 g

10. An 80-gram sample of water at 10°C absorbs 400 calories of heat energy. What is the final temperature of the water?

    A. 50°C B. 15°C C. 5.0°C D. 4.0°C

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1.
Answer: C

2.
Answer: B

3.
Answer: C

4.
Answer: B

5.
Answer: C

6.
Answer: D

7.
Answer: D

8.
Answer: A

9.
Answer: B

10.
Answer: B