



FOR GOD AND COUNTRY

ST. LAWRENCE HIGH SCHOOL



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- A JESUIT CHRISTIAN MINORITY INSTITUTION
- **Subject : Physics Answers of Worksheet-14 Class- IX**
- **Date 15.06.2020**
Chapter: Heat

Answer the following questions (MCQ) : (1×15)

Question 1.

Q. The SI unit of heat and energy is the _____.

answer choices

calorie

heat

joule

watt

Answer joule

Question 2

Q.

How much heat does an aluminum block absorb if 10.0 grams are heated from 25.0°C to 50.0°C? The specific heat of aluminum is 0.900 J/g°C.

answer choices

450 J

-450 J

225 J

-225 J

Answer 225 J

Question 3

Q.

If 100. g of aluminum at 145°C gains 1626.8. cal of heat, what is the final temperature (T_{final}) of the aluminum? Aluminum has a specific heat of 0.215 cal/g°C. ($Q=mc\Delta T$)

answer choices

-69.0°C

0.522°C

221°C

Answer 221°C

Question 4

Q.

What quantity of heat is required to raise the temperature of 45 grams of water from 15°C to 85°C? The specific heat capacity of water is 1.0 cal/g°C.

answer choices

3110 cal

3,827.8 cal

130 kJ

70 J

Answer 130 kJ

Question 5

Q. In heat transfer, heat always flows from the _____ substance to the _____ substance.

answer choices

- Hotter to colder
- Colder to hotter
- Hotter to hotter
- Colder to colder

Answer Hotter to colder

Question 6

Q.

The amount of energy required to raise the temperature of 1 gram of a substance by 1° C is known as:

answer choices

- Specific heat capacity
- Heat of fusion
- Heat of vaporization
- Melting point

Answer Specific heat capacity

Question 7

Q. Ironing a shirt is an example of...

answer choices

- condensation
- conduction
- convection
- radiation

Answer conduction

Question 8

Q. Transfer of thermal energy through "space"

answer choices

- conduction
- convection
- radiation

Answer radiation

Question 9

Q. What is the formula to calculate heat energy required to raise the temperature of any substance?

answer choices

- $Q=mc\Delta t$
- $Q=mc$
- $Q= \frac{1}{2}mv$
- $m=QC$

Answer $Q=mc\Delta t$

Question 10

Q.

Calculate the amount of energy required to melt 35.0 grams of ice.

(not in sig figs) (L_f) or $H_f = 334.0 \text{ J/g}$, (L_v) or $H_v = 2260 \text{ J/g}$.

answer choices

79100J
146.3J
11690J
39939.9J

Answer 11690J

Question 11

Q.

How many Calories of energy are required to make 100 grams of ice at 0 °C completely melt?

The heat of fusion of ice is 80 cal/g

answer choices

47.8 cal
95.7 cal
8000 cal
54,000 cal

Answer 8000 cal

Question 12

Q.

How many Joules of energy are required to change 10 gram of water from 20 C to 90 C? specific heat of water is 4.18 J/g°C

answer choices

1476 J
2926 J
210,050 J
1,404,500 J

Answer 2926 J

Question 13

Q.

What is the change in temperature when 11,961.7 calories of energy is added to 200 grams of water at 25 C?

answer choices

16 C
150 C
60 C
4 C

Answer 60 C

Question 14

Q. Which of the following pictures shows a piece of ice being heated from -2 C to 25 C?

answer choices

A
B
C
D

Answer A

Question 15

Q.

20 g of water. specific heat of water is 1.0 cal/g°C. temperature changes from 25° C to 20° C, how much heat energy (Q) moves from the water to the surroundings?

answer choices

100 cal

50 cal
19.9 cal
4.18 J

Answer 100 cal

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