Mechanics

Phys Sci

Name _____ Class _____ Date _____

1 As the unbalanced force applied to an object **increases**, the **time rate of change** of the object's momentum

A decreases
B increases
C remains the same

2 A test booklet is sitting at rest on a desk. Compared to the magnitude of the force of the booklet on the desk, the **magnitude** of the **force** of the desk on the booklet is

A less
B greater
C the same

3 The diagram below represents 4.0×10^2 kg satellite, S, in a circular orbit at an altitude of 5.0×10^6 meters. The orbital speed of the satellite is 5.0×10^3 meters per second and the radius of the Earth, R, is 6.4×10^6 meters.

The **centripetal acceleration** of the satellite is closest to

A 9.8 m/s^2
B
C
D

4 The diagram below represents 4.0×10^2 kg satellite, S, in a circular orbit at an altitude of 5.0×10^6 meters. The orbital speed of the satellite is 5.0×10^3 meters per second and the radius of the Earth, R, is 6.4×10^6 meters.

The **weight** of the satellite on the Earth's surface would be

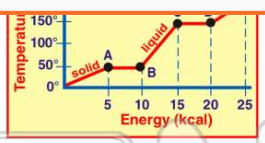
A 560 N

5 T
s
5
s
r
If
it

A
B
C

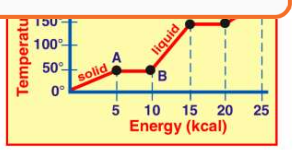
7 T
b
p
th
T
the substance is

A 5.0 kcal/kg
B 2.0 kcal/kg
C 2.5 kcal/kg
D 50 kcal/kg



liquid phase is

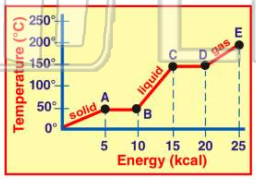
A 0.025 kcal/kg-°C
B 0.050 kcal/kg-°C
C 20 kcal/kg-°C
D 40 kcal/kg-°C



9 The graph below represents the relationship between the temperature of 2.0 kilograms of a pure substance and the heat energy added to the substance.

The **potential energy** of the molecules of the substance is **increasing** between points

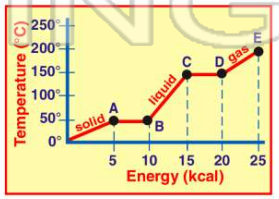
A A and B, only
B B and C, only
C B and C, and D and E
D A and B, and C and D



10 The graph below represents the relationship between the temperature of 2.0 kilograms of a pure substance and the heat energy added to the substance.

The **freezing point** of the substance is

A 0° C
B 50° C
C 150° C
D 200° C



ANSWER KEY

As the unbalanced force applied to an object **increases**, the **time rate of change** of the object's momentum

A decreases
B increases
C remains the same

b

A test booklet is sitting at rest on a desk. Compared to the magnitude of the force of the booklet on the desk, the **magnitude** of the **force** of the desk on the booklet is

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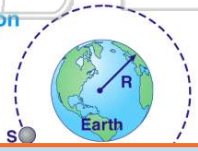
c

The diagram below represents 4.0×10^2 kg satellite, S, in a circular orbit at an altitude of 5.0×10^6 meters. The orbital speed of the satellite is 5.0×10^3 meters per second and the radius of the Earth, R, is 6.4×10^6 meters.

The **centripetal acceleration** of the satellite is closest to

A 9.8 m/s^2
B 4.9 m/s^2
C
D



c

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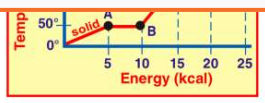
The **weight** of the satellite on the Earth's surface would be

A 560 N
B 980 N
C
D

d

A 5.0 kcal/kg
B 2.0 kcal/kg
C 2.5 kcal/kg
D 50 kcal/kg



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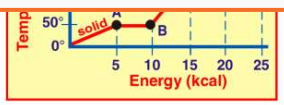

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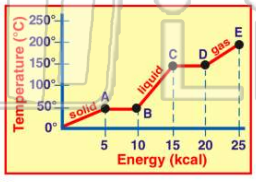

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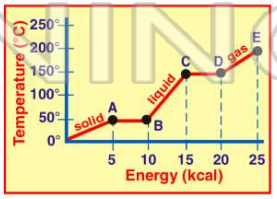

b