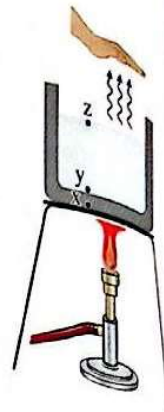
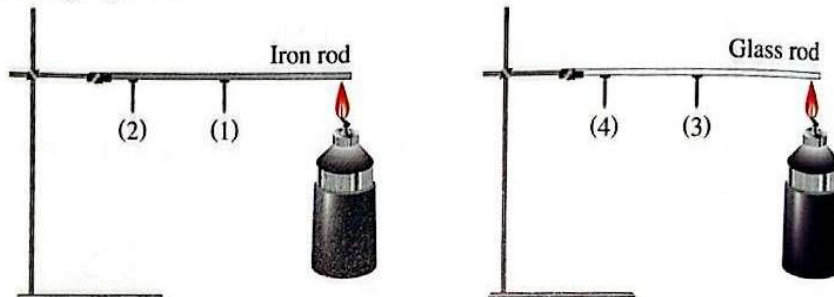


22 An amount of water is being heated up in an aluminum pot. If you pass your hand over the pot as shown in the opposite figure, the heat gets transferred from:



- (1) spot z to your hand by
- (a) conduction (b) convection
 (c) radiation (d) the answer cannot be determined
- (2) spot x to spot y by
- (a) conduction (b) convection
 (c) radiation (d) convection and radiation
- (3) spot y to spot z by
- (a) conduction (b) convection
 (c) radiation (d) convection and radiation

23 Four nails (1), (2), (3), and (4) were fixed with wax on two rods, one made of iron and the other of glass, and then one end of each rod was heated as shown in the following figures:



Which nail falls first?

- (a) Nail (1). (b) Nail (2). (c) Nail (3). (d) Nail (4).

24 What is the main adaptation method of the wood frog during winter season?

- (a) It moves a lot to feel warm.
 (b) It migrates to the warm areas.
 (c) It builds nests to be protected from cold.
(d) It partially freezes and enters in a deep hibernation.

25 The wood frog can survive although its body partially freezes, due to

- (a) changing its skin color before freezing
 (b) storing small amounts of fats before freezing
 (c) reducing the amount of oxygen in blood before freezing
(d) producing large amounts of glucose in its vital organs before freezing

26 The main adaptation that enables icefish to survive in Antarctica is

- (a) the secretion of antifreeze proteins
 (b) the reduction of the oxygen amount in blood
 (c) the production of little amounts of glucose in its vital organs
 (d) the storage of little amounts of fats

- 27 The antifreeze proteins in icefish help it to adapt, as they
- (a) decrease the amount of absorbed oxygen from the cold water
 - (b) prevent the formation of ice crystals in the fish blood
 - (c) reduce the metabolism
 - (d) store little amounts of fats in the body

- 28 How does the thorny devil lizard adapt to high temperatures and dry environment in deserts?
- (a) It changes its skin color to reflect more solar radiations and reduce the heat absorption.
 - (b) It increases the rate of heartbeats to raise the blood flow to its skin for cooling.
 - (c) It collects the moisture from air and directs it towards its mouth by small channels on its skin surface.
 - (d) It stores little amounts of fats for cooling its body.

Atmospheric pressure:

- 29 The air density in the upper layers of the atmosphere compared to the layers near the Earth's surface is
- (a) higher
 - (b) lower
 - (c) equal
 - (d) the answer can't be determined

- 30 What happens to the amount of oxygen available for breathing at high altitude areas such as mountain tops compared to the areas near to sea level and what is the effect of that on the body's production of red blood cells in people living in those high altitude regions?

	The amount of oxygen	The production of red blood cells
(a)	Increases	Increases
(b)	Increases	Decreases
(c)	Decreases	Increases
(d)	Decreases	Decreases

- 31 What is the unit used to express pressure in meteorological maps?
- (a) cm Hg
 - (b) N/m²
 - (c) mm Hg
 - (d) millibar
- 32 The device used to measure atmospheric pressure is
- (a) thermometer
 - (b) hydrometer
 - (c) mercury barometer
 - (d) hygrometer
- 33 * The pressure of 1 millibar is equivalent to
- (a) 1000 N/m²
 - (b) 10⁻³ N/m²
 - (c) 100 N/m²
 - (d) 10⁻² N/m²
- 34 If you know that the atmospheric pressure at the top of a mountain is 750 mm Hg, it is equivalent to
- (a) 99967.11 N/m²
 - (b) 89967.11 N/m²
 - (c) 101300 N/m²
 - (d) 1013 N/m²