

Name: _____

ID# _____

42. You have just discovered an organism that lives in extremely cold environments. Which of the following would you predict to be true about the phospholipids in its membranes, compared to phospholipids in the membranes of organisms that live in warmer environments?
- The membrane phospholipids of cold-adapted organisms will have longer hydrocarbon tails.
 - The membrane phospholipids of cold-adapted organisms will have more saturated hydrocarbon tails.
 - The membrane phospholipids of cold-adapted organisms will have more unsaturated hydrocarbon tails.**
43. What will happen to a red blood cell (rbc), which has an internal ion concentration of about 0.9 percent, if it is placed into a beaker of pure water?
- Nothing.
 - The cell would shrink because the water in the beaker is hypotonic relative to the cytoplasm of the rbc.
 - The cell would shrink because the water in the beaker is hypertonic relative to the cytoplasm of the rbc.
 - The cell would swell because the water in the beaker is hypotonic relative to the cytoplasm of the rbc.**
44. What must happen for adaptive radiation to occur?
- Chance evolution of a morphological innovation and an opportunity to use it.**
 - Movement of organisms onto terrestrial environments.
 - Oxygenation of the atmosphere by oxygenic photosynthesis.
 - Organisms must live on an island.
45. Carl Woese proposed that all life could be grouped into three domains. What did he base his model on?
- DNA barcodes
 - Morphological characteristics
 - Cytochrome c oxidase gene sequence data
 - Small subunit rRNA gene sequence data**
46. Melting of ice is endothermic, but is also spontaneous because ____.
- of the large increase in entropy**
 - of the large decrease in entropy
 - water is more ordered than ice
 - water has more free energy than ice
47. The lock-and-key model of enzyme-substrate interaction has been largely replaced by
- The induced-fit hypothesis**
 - The padlock hypothesis
 - The intrinsically disordered hypothesis
 - The flexible-interaction model
48. What type of chemical bond is responsible for the formation of lipid bilayers?
- Hydrophobic interactions**
 - Hydrogen bonds
 - Ionic bonds
 - Covalent binds