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| **One Assorted Round – 25 Toss-Ups** |
| Mira Loma Science Bowl - Winter Break 2009-2010 |
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| ***Russ Islam*** |
| ***12/21/2009*** |
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TOSS-UP

1. BIOLOGY; Multiple Choice: Which of the following does auxin NOT stimulate?

(W) Primary growth

(X) Meristematic growth

(Y) Apical dominance

(Z) Secondary growth

ANSWER: Z—SECONDARY GROWTH

TOSS-UP

2. EARTH SCIENCE; Short Answer: Under the Koppen climate classification system, hot

deserts are designated as what?

ANSWER: BWh

TOSS-UP

3. PHYSICS; Short Answer: One vibration has 10 times the energy of a second vibration.

What is the amplitude of the first vibration in terms of the amplitude of the second?

ANSWER:

TOSS-UP

4. CHEMISTRY; Short Answer: A compound that yields a hydrophobic group, a long fatty

chain, and a sphingosine is known as a what?

ANSWER: SPHINGOLIPID

TOSS-UP

5. ASTRONOMY; Multiple Choice: Which satellite has intense volcanic activity?

(W) Io

(X) Ganymede

(Y) Callisto

(Z) Iapetus

ANSWER: W—IO

TOSS-UP

1. MATH; Short Answer: At a point of inflection of the function f(x), f’(x) will have a slope of what?

ANSWER: INFINITY (ACCEPT: UNDEFINED)

TOSS-UP

7. GENERAL SCIENCE; Multiple Choice: A traditional oath to ethically practice medicine that physicians must take is widely believed to have been written by whom?

(W) Hipparcos

(X) Hippocrates

(Y) Galen

(Z) Democritus

ANSWER: X—HIPPOCRATES

TOSS-UP

8. BIOLOGY; Short Answer: What is the three-letter abbreviation for auxin?

ANSWER: IAA (DO NOT ACCEPT: INDOLE ACETIC ACID)

TOSS-UP

9. EARTH SCIENCE; Multiple Choice: Which of the following is the correct description of a

BWk desert?

(W) temperate

(X) arid

(Y) semiarid

(Z) megathermal

ANSWER: W—TEMPERATE

TOSS-UP

10. PHYSICS; Short Answer: A geologist is standing at a particular location on earth’s surface. He has a pendulum 1 meter in length that swings with a frequency of 10 hertz. In terms of , what is the magnitude of the acceleration due to gravity at this location?

ANSWER: meters per second squared

TOSS-UP

11. CHEMISTRY; Short Answer: Glyceryl esters of fatty acids, phosphoric acid, and ethanolamine are known as what?

ANSWER: PHOSPHATIDYL ETHANOLAMINES (ACCEPT: CEPHALINS)

TOSS-UP

12. ASTRONOMY; Short Answer: Name the five moons of Uranus that have been discovered by observation from Earth.

ANSWER: Z—ARIEL, MIRANDA, OBERON, TITANIA, UMBRIEL

TOSS-UP

13. MATH; Short Answer: If at a certain point of f(x), f’(x) = 0 and f’’(x) is positive, that point is what type of extrema?

ANSWER: MINIMUM (ACCEPT: RELATIVE MINIMUM. DO NOT ACCEPT:

ABSOLUTE MINIMUM)

TOSS-UP

14. GENERAL SCIENCE; Short Answer: What nation is currently the largest emitter of greenhouse gases?

ANSWER: CHINA (ACCEPT: PEOPLE”S REPUBLIC OF CHINA. DO NOT

ACCEPT: REPUBLIC OF CHINA)

TOSS-UP

15. BIOLOGY; Multiple Choice: Toll-like receptor 5 recognizes what?

(W) CpG DNA

(X) dsRNA

(Y) Flagellin

(Z) Lipopolysaccharide

ANSWER: Y—FLAGELLIN

TOSS-UP

16. EARTH SCIENCE; Short Answer: Drumlins can be found in groups known as what?

ANSWER: DRUMLIN FIELDS or DRUMLIN CAMPS

TOSS-UP

17. PHYSICS; Multiple Choice: A synonym for birefringence is

(W) Single refraction

(X) Double refraction

(Y) Anisotropy

(Z) Polarization

ANSWER: X—DOUBLE REFRACTION

TOSS-UP

18. CHEMISTRY; Short Answer: Organic substances that are readily decomposed by microorganisms are said to be what?

ANSWER: BIODEGRADEABLE

TOSS-UP

19. ASTRONOMY; Short Answer: Binary stars that appear to be a single star when viewed through a telescope but are found to be binary when their spectra are examined are known as what?

ANSWER: SPECTROSCOPIC BINARIES

TOSS-UP

20. MATH; Short Answer: What is the integral of ?

ANSWER:

TOSS-UP

21. GENERAL SCIENCE; Short Answer: What Chinese woman is currently the Director-

General of the World Health Organization? Last name only is not accepted.

ANSWER: MARGARET CHAN (ACCEPT: MARGARET CHAN FUNG FU-CHUN)

TOSS-UP

22. BIOLOGY; Multiple Choice: A patient displays the following symptoms: a butterfly-like

rash over the cheeks and bridge of the nose, inflammation, periodic remissions of illness,

and connective tissue damage caused by autoimmunity. What disease does she have?

(W) Chronic granuloma

(X) Systemic lupus erythematosus

(Y) Sarcoidosis

(Z) Kaposi’s sarcoma

ANSWER: X—SYSTEMIC LUPUS ERYTHEMATOSUS

TOSS-UP

23. EARTH SCIENCE; Short Answer: What is the deepest point in the ocean that has been

mapped by humans?

ANSWER: CHALLENGER DEEP

TOSS-UP

24. PHYSICS; Short Answer: In the equation for the magnitude of birefringence, , what do *e* and *o* stand for?

ANSWER: EXTRAORDINARY AND ORDINARY

TOSS-UP

25. CHEMISTRY; Short Answer: Enantiomers can be L or D. What does D stand for?

ANSWER: DEXTROROTATORY