**25 TOSS-UP (ASSORTED)**

1. CHEMISTRY *Short Answer* What element has the electron configuration of 1s22s22p63s1?

ANSWER: SODIUM

1. CHEMISTRY *Multiple Choice* There is an unknown substance. The substance that changes by 50 degrees Celsius and weighs 100g, using the total energy 50,000 cal., and no heat is lost to the environment. What is the substance?

ANSWER: WATER

1. CHEMISTRY *Multiple Choice* What shape describes BrF3?

W) Bent

X) Trigonal Planar

Y) T-Shaped

Z) Seesaw

ANSWER: Y) T-SHAPED

1. CHEMISTRY *Short Answer* Is the compound potassium nitrate ionic or covalent?

ANSWER: IONIC

1. CHEMISTRY *Short Answer* By what process is a nuclide split into two or more fragments when struck?

ANSWER: NUCLEAR FISSION

1. BIOLOGY *Short Answer* What are the two fluids that are present in the circulatory system?

ANSWER: BLOOD AND LYMPH

1. BIOLOGY *Multiple Choice* Where are bound ribosomes present?

W) Cytosol

X) Nucleus

Y) Endoplasmic Reticulum

Z) Mitochondria

ANSWER: Y) ENDOPLASMIC RETICULUM

1. BIOLOGY *Short Answer* What are the two main portions of the forebrain?

ANSWER: DIENCEPHALON AND TELENCEPHALON

1. BIOLOGY *Short Answer* Who discovered the principles of genetics and heredity?

ANSWER: MENDEL

1. BIOLOGY *Multiple Choice* Which of the following are carnivorous plants?
2. Sundews
3. Flytraps
4. Hungarian Oak

ANSWER: SUNDEWS and FLYTRAPS

1. MATH *Short Answer* What is the product of 234 and 1001?

ANSWER: 234,234

1. MATH *Multiple Choice* Which of the following are not relatively prime?

W) 17 and 85

X) 18 and 19

Y) 6 and 23

Z) 5 and 102

ANSWER: W) 17 AND 85

1. MATH *Short Answer* Bob has seven different types of shirt, and one of each. John and Smith each want one shirt. In how many different ways can Bob give both John and Smith pairs of shirts?

ANSWER: 42 WAYS

1. MATH *Short Answer* What is the value of (x-5)2 if x=2y?

ANSWER: 4y2-20y+25

1. MATH *Multiple Choice* I want to fence a square plot of land, with area of 36 square feet. Each of the posts is placed a 2 feet, including at the corners. How many posts are needed?

W) 10 posts

X) 12 posts

Y) 14 posts

Z) 16 posts

ANSWER: 12 posts

1. EARTH/SPACE *Short Answer* What idea refers to the creation of our solar system?

ANSWER: NEBULAR HYPOTHESIS

1. EARTH/SPACE *Multiple Choice* Which describes the following: weak portion of internal structure due to high temperatures?

W) Lithosphere

X) Crust

Y) Asthenosphere

Z) Lower Mantle

ANSWER: Y) ASTHENOSPHERE

1. EARTH/SPACE *Short Answer* What are the flat regions located in the deep-ocean basins called?

ANSWER: ABYSSAL PLAINS

1. EARTH/SPACE *Multiple Choice* Which of the following rates a 5 or better on Mohs scale?

W) Fluorite

X) Talc

Y) Gypsum

Z) Quartz

ANSWER: Z) QUARTZ

20) EARTH/SPACE *Short Answer* What is the name for gaseous masses that consist largely of hydrogen and absorb UV radiation?

ANSWER: EMISSION NEUBLAE

1. PHYSICS *Short Answer* Who discovered the laws of relativity and defined them?

ANSWER: ALBERT EINSTEIN

1. PHYSICS *Short Answer* What is defined to be equal to dr/dt?

ANSWER: VELOCITY

1. PHYSICS *Short Answer* What is 6.63 times 10-34J. s commonly known as?

ANSWER: PLANCK’S CONSTANT

1. PHYSICS *Short Answer* What is the object that is referred to called?

ANSWER: REFERENCE POINT

1. PHYSICS *Multiple Choice* Mud is flung from the bottom of a tire. This is an example of what force?

W) Centripetal

X) Rotating

Y) Gravitational

Z) Centrifugal

25) PHYSICS *Short Answer* A car starts at the speed of 50 mph and ends with a speed of 80 mph, assuming the speed changed only once in the two hours, what is the acceleration of this car?

ANSWER: 15 MPH