

Wichita State University "Freeze Your Buzz Off"
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TOSSUPS

While most geometric figures can be described as existing in one, two, or any other whole number of dimensions, these peculiar shapes seem to fit somewhere in between. As demonstrated by the French mathematician Benoit Mandelbrot, these "infinitely complex" objects must be treated as having some fractional, non-integer dimension. For 10 points, name this type of self-similar mathematical shape which can be used to model physical objects such as clouds, mountains, and coastlines.

ANSWER: FRACTAL

Carbonic acid, acetone, and formaldehyde are all examples of compounds that contain a carbon-oxygen double bond. FTP, give the general term that describes any functional group containing such a bond.

ANSWER: CARBONYL group (pronounced carbo-neel)

This modern author's most recent novel, "The Law of Love," tells the story of Rodrigo's search for his twin soul, and it is considered to be the first multi-media novel. This author's more well known novel tells the story of Pedro and Tita. FTP name the author of "Como Agua Para Chocolate" aka "Like Water For Chocolate."

ANSWER: Laura ESQUIVEL

This author, not known for writing romance novels, wrote of them under the pseudonym Mary Westmacott, for a diversion from her usual genre. In recognition of this author's achievements s/he was created a Dame Commander of the British Empire in 1971. FTP name the author who's two most famous characters are a Belgian detective and an elderly spinster.

ANSWER: Agatha Christie

This American Poet was known as the "Vagabond Poet" because of the nature of his poetry. His best known work was recited in the movie "Dead Poet's Society," with the accompanying tribal drums. FTP name the poet who penned "The Congo."

ANSWER: Vachel LINDSEY

Richard Strauss named one of his works after the title of one of this major philosopher's works. This German also made the statement "God is Dead." FTP name the author of "Thus spake Zarathustra."

ANSWER: Frederic NIETSCHE

This German composer was convinced that his new system of twelve-tone serialism would ensure the supremacy of German music for a hundred years to come, when he developed it in the 1920's. FTP, name this founder of the Second Viennese School, and who is probably best known for his

non-serialistic works such as Verklarte Nacht, and Pierrot Lunaire.

ANSWER: Amold SCHOENBERG

Born in Paris, this Impressionist painter had relatives in New Orleans, whom he visited upon occasion. Upon one such visit, this artist painted The Cotton Exchange, which shows the artist's relatives at work buying and selling in a New Orleans market. FTP, name this artist, famous for his depictions of racetracks, dancers and female bathers.

ANSWER: Edgar DEGAS

He scandalized the ballet world with his choreography for Prelude to the Afternoon of a Faun, which he created in conjunction with Sergei Diaghelev, but is most famous for choreographing another Diaghelev production, The Rite of Spring. FTP, name this turn-of-the century dancer and choreographer.

ANSWER: Vaslav NIJINSKY

This philosopher spent almost his entire life in Copenhagen, and was unrecognized in his lifetime; However, he has achieved prominence in modern times on the basis of works such as Fear and Trembling, Either/Or, and The Sickness Unto Death. FTP, name this Danish philosopher, often regarded as the father of Existentialism.

ANSWER: Soren KIERKEGAARD

The vapor pressure of pure water is dependent on temperature only. However, the vapor pressure of a water-benzene mixture depends on both temperature and the composition of the solution. Furthermore, only one combination of temperature and pressure will allow the presence of both solid benzene and ice in the solution. All of these observations can be predicted using this physical law, first proposed by J. Willard Gibbs in 1877. For 10 points, name this mercifully simple rule used to calculate the degrees of freedom in heterogenous chemical equilibria.

ANSWER: the Gibbs PHASE RULE

Among this scientist's many accomplishments is discovery of the genetic defect in hemoglobin production that causes sickle-cell anemia. However, he is more commonly known for his applications of quantum physics in the study of chemical bonding. His findings on this topic are summarized in the 1939 publication _The Nature of the Chemical Bond_, and he was awarded the Nobel Prize in Chemistry in 1954 for his work. Soon thereafter he became an active opponent of nuclear weapons testing, and he won a second Nobel Prize in 1964, this time for peace. FTP, name this brilliant but sometimes controversial American scientist who developed a scale for measuring electronegativity values.

ANSWER: Linus PAULING

The only major acclaim that this poet's work received upon initial publication was from an anonymous review which the poet had written himself. The work reviewed was a book of poems containing such sections as, Calamus , Children of Adam, and Drum Taps. FTP, name the American poet whose Leaves of Grass has

now won acclaim in its own right.

ANSWER: Walt WHITMAN

This Jewish prophet was taken into exile by the Babylonians as a young man, where he served in the court of Nebuchadnezzar and Belshazzar. The Old Testament book ascribed to him records the details of his life and contains many of his prophecies, which are mostly political in nature, but which are also a major source of Messianic prophecy. FTP, name this man, famed for "reading the writing on the wall," and for an encounter in a den of lions.

ANSWER: DANIEL

This composer's violin concerto was dedicated "to the memory of an angel," and contains coded references to the life and death of a young girl who had died at an early age. The concerto was to be his last completed work, as he died shortly after, leaving his last opera, Lulu, unfinished. FTP, name this composer, who along with Schoenberg and Webern, comprised the Second Viennese School.

ANSWER: Alban BERG

Heavily influenced by Japanese art, this 19th century painter's works include "The Guitar Player," "The Balcony," "The Fifer," and "A Bar at the Folies-Bergere." FTP, name this man, considered by some to be the greatest impressionist, and who painted the painting "Olympia."

ANSWER: Edouard MANET

His boyhood dyslexia didn't prevent him from attending West Point, although it did take five years to graduate. During the First World War, he rose to the rank of lieutenant colonel and command of the U.S. Tank Corps. As World War II neared, he ran a special armored division training center, preparing for combat duty in North Africa. FTP name this flagrantly profane military man.

ANSWER: George S. PATTON Jr.

Born in the early 1500s in the Basque country, he fought for a quarter century as a mercenary soldier in South America. As part of a large expedition exploring the Amazon River in search of El Dorado, he assassinated the commander, took control and launched a reign of terror, murdering at least 40 members of the expedition. FTP name this self-described "Wrath of God".

Answer: Lope de AGUIRRE

In the first scene, the fathers of the soon to be married couple bargain the dowry settlement, while the bride and groom sit with their backs to each other. In the following scenes, the former bride, Lady Squanderfield, is shown to have cuckolded her husband with the family lawyer, Counselor Silvertongue. FTP name this series of 6 paintings by William Hogarth.

ANSWER: MARRIAGE A LA MODE

This artist, who influenced Expressionism and Fauvism, painted his famous work

from the view of his window at the asylum at St. Remy. During his lifetime, only one painting of his was sold, titled "Red Vineyard at Arles". FTP Name this tortured artist, also known for his painting "Self-Portrait with a Bandaged Ear".

Answer: Vincent VAN GOGH

While on the campaign trail, this former general in the Mexican War saw his 11 year old son killed when he was hit by a train. His wife, the former Margaret Mackall Smith, never mentally recovered from the loss despite all efforts. One of these such efforts was a "spirit wedding" which took place in the White House between this President's late son and a female friend of his who died four years earlier. FTP name this president born in Virginia in 1784 recently exhumed for an autopsy due to his suspicious death in office.

Answer: Zachary TAYLOR

This city was home to a Federal POW camp holding thousands of Confederate soldiers during the Civil War. This city was home to the tallest recorded man in history, Robert Wadlow, who measured 8 feet 11.1 inches tall. This city was home to the last Lincoln-Douglas Debate. This city is now home to a Riverboat Casino. In 1993, this city was home to a whole lot of water. Name this city near the confluence of the Illinois, Mississippi, and Missouri Rivers.

Answer: ALTON, Illinois

This novelist was born in Germany in 1875, but settled in the U.S. in 1938. He wrote a four novel-cycle entitled "Joseph and His Brothers," and won the Nobel Prize for Literature in 1929. FTP name this author of Buddenbrooks, The Magic Mountain, and the short story Death in Venice.

Answer: Thomas MANN

This statesman was instrumental in negotiating the Korean war truce, and was working to end the fighting in the Congo before his death in an airplane crash. He oversaw these and other activities as the secretary general of the U.N., a post which he held from 1953 to 1961. FTP name this Swedish diplomat.

Answer: Dag HAMMARSKJOLD

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BONUSES

For 10 points apiece, name the type of fundamental force that results from the interactions of the given type of exchange particle.

A. gluon

ANSWER: STRONG nuclear force

B. graviton

ANSWER: GRAVITATIONAL force OR GRAVITY

C. photon

ANSWER: ELECTROMAGNETIC force

For 5 points apiece, identify the type of isomer being described.

A. molecules that contain the same atoms but have different bonds

ANSWER: structural isomers OR combinational isomers

B. molecules that have the same atoms and the same bonds but have different spatial arrangement of some atoms

ANSWER: stereoisomers

C. molecules which are mirror images of each other but not of themselves

ANSWER: enantiomers

D. ionic compounds which are structural isomers but have different complex ion composition

ANSWER: coordination isomers

E. complex ions whose ligands are attached to different atoms of the central ion

ANSWER: linkage isomers

F. atoms whose nuclei have the same number of protons and neutrons but differ in half-life and/or type of radioactive decay

ANSWER: nuclear isomers

It's time for some SI unit ABC's. Identify the SI unit from its one-letter abbreviation for 5 points each. Note -- all letters are in the upper case.

A. A

ANSWER: _ampere_ OR _amp_

B. K

ANSWER: _kelvin_

C. H

ANSWER: _henry_

D. W

ANSWER: _watt_

E. C

ANSWER: _coulomb_

F. T

ANSWER: _tesla_

Answer these questions about Biblical poetry , for ten pts each.

A) This poetical book depicts the struggles and questions of the title character as he wrestles with suffering and loss, questioning God, and taking little comfort from his three friends, who are convinced that his problems are his own fault.

ANSWER: JOB

B) This book is a set of poems mourning the destruction of Jerusalem. Ascribed to the prophet Jeremiah, it is included among the books of the minor prophets, although it contains no actual prophecy.

ANSWER: LAMENTATIONS

C) This immensely structured psalm is the longest in the book of Psalms, containing 176 verses. It is an acrostic poem, centered around the central theme of the greatness of the Hebrew Law.

ANSWER: PSALM 119

Identify these terms and laws from physics, form ten pts each.

A) Its law in electromagnetism states that a change in magnetic flux produces an electric current.

ANSWER: FARADAY's law

B) This law in optics states that, between two mediums, the sine of the angle of incidence is equal to the sine of the angle of refraction.

ANSWER: SNELL's law

C) This law in electromagnetism states that the magnetic field produced by a magnetically-induced current is oriented in such a way as to oppose the magnetic field that produced it.

ANSWER: LENZ's law

Identify these terms from chemistry, given their definition, FTP each.

A) This quantity is measured by the Pauling scale, and is defined as an atom's readiness to accept electrons.

ANSWER: ELECTRONEGATIVITY

B) This term can define any molecule which has an excess of electrons, and which readily donates those electrons in an organic substitution reaction.

ANSWER: NUCLEOPHILE

C) This type of organic reaction usually involves deprotonation by base, and the formation of a carbon-carbon double bond.

ANSWER: ELIMINATION reaction

For ten points each, identify the librettist, given an opera, and a composer.

A) Mozart, The Marriage of Figaro

ANSWER: Lorenzo DA PONTE

B) Richard Strauss, Der Rosenkavalier

ANSWER: Hugo von HOFFMANNSTAHL

C) Richard Wagner, Gotterdammerung

ANSWER: Richard WAGNER

Identify the musical work, 30-20-10.

(30 pts) The opening section of the final movement serves to restate musical material from the rest of the work, before the dramatic entrance of the bass implores: "Brothers, let us leave these tones."

(20 pts) The rest of the movement is a choral setting of a poem by Schiller which exalts the brotherhood of all men.

(10 pts) This "Choral" symphony is one of Beethoven's most renowned works.

ANSWER: SYMPHONY #9 (in D Minor)=20

FTP each, name the city each art museum is located in.

A) the Uffizi gallery

ANSWER: FLORENCE, Italy

B) the Hermitage

ANSWER: LENINGRAD, Russia

C) the Frick Gallery

ANSWER: NEW YORK, New York

Given a chemical definition, supply the term, for the stated number of points.

A) 5 pts. This category of isomers defines any two atoms which differ in the connectivity and arrangement of their atoms.

ANSWER: STRUCTURAL isomers

b) 10 pts. This category of isomers defines any two molecules which differ only in the arrangement of their atoms in space.

ANSWER: STEREOISOMERS

c) 15 pts. This term defines any two molecules which differ only in the arrangements of double bonds and hydrogen atoms.

ANSWER: TAUTOMERS

Jane Austen's novels recently have been revived in movies, and it's time to ask you FTP each to name the novel, given a character.

A. Mr. Weston

ANSWER: EMMA

B. Catherine Morland

ANSWER: NORTHANGER ABBEY

C. Captain Frederick Wentworth

ANSWER: PERSUASION

For 10 points apiece, name the type of parametric curve from its thermodynamic description.

1. A path along which pressure is held constant

ANSWER: ISOBAR or ISOBARIC

2. A path along which temperature is held constant

ANSWER: ISOTHERM or ISOTHERMIC

3. A path along which entropy is held constant

ANSWER: ADIABAT or ADIABATIC

Given a clue in physics, supply the correct answer, FTP each.

A. In a circuit w/a capacitor, this quantity is defined as the voltage across a capacitor times the capacitance.

ANSWER: the CHARGE on the capacitor

b) In a circuit with a resistor, this quantity is defined as the resistance times the current across the resistor.

ANSWER: the VOLTAGE across the resistor

c) In a circuit with a resistor, this quantity is defined as the resistance times the square of the current across the resistor.

ANSWER: the POWER dissipated

Name the composer, 30-20-10, given a list of works as clues.

- a) In Memoriam Dylan Thomas, The Rake's Progress, Les Noces
- b) Oedipus Rex, Octet for Winds, Pulcinella
- c) the Firebird, Petrushka, The Rite of Spring

ANSWER: Igor STRAVINSKY

Given a clue, name the playwright, FTP each.

A. This Englishman was not only a playwright, but also an actor, director, and composer. He won renown for his musicals and comedies such as Private Lives, Blithe Spirit, and Bitter Sweet.

ANSWER: Noel COWARD

B. You might remember this modern American playwright for such works as The Zoo Story or Tiny Alice, or if you watch enough TV you might remember that he was recently recognized at the Kennedy Center Honors broadcast.

ANSWER: Edward ALBEE

C. This American playwright won the Pulitzer four times: in 1920 for Beyond the Horizon, in 1922 for Anna Christie, in 1928 for Strange Interlude, and in 1956 for A Long Day's Journey into Night.

ANSWER: Eugene O'NEILL

Given a clue, identify the ballet by Aaron Copland, for ten pts each.

A) Made in collaboration with Martha Graham, this ballet is descriptive of

the life of a young frontier couple, and its signature tune is a Shaker song used by Copland in several other works.

ANSWER: APPALACHIAN SPRING

B) This ballet is about a young cowgirl, and her struggles on a Western ranch. Its signature tune was used in a famous beef commercial.

ANSWER: RODEO

C) Copland was ambivalent about writing this ballet, since its title character was a frontier outlaw legend, and Copland, a New York native for most of his life, had never ventured west. His uncertainties were laid to rest however, when he discovered that this outlaw had also been born in New York.

ANSWER: BILLY THE KID

Identify the muse, given the subject in ancient Greek art which they governed, for ten points apiece.

a) astronomy

URANIA

b) comedy

THALIA

c) sacred song

POLYHYMNIA

Identify the Platonic dialogue, given a description, 15 pts each.

A) This dialogue is the account of Socrates' trial in Athens, and his defense before his accusers.

ANSWER: APOLOGIA (the Apology)

B) This dialogue is about the conversation between the title character and Socrates, as the title character attempts to persuade Socrates to escape from jail and be smuggled to safety.

ANSWER: CRITO

Women have played an important part in history. For ten points apiece, given the event, name the state where it occurred.

A) First U.S. woman lawyer to pass the bar

ANSWER: IOWA

B) Women's Christian Temperance Union established.

ANSWER: OHIO

C) First US woman Governor

ANSWER: WYOMING

For 5 points each, and a 10 point bonus for all correct, name the creators of these works.

A Valley Curtain

Answer: CHRISTO

B. Banqueting House, Whitehall, London

Answer: Inigo JONES

C. Rotunda, University of Virginia, Charlottesville

Answer: Thomas JEFFERSON

D. St. Theresa in Ecstasy

Answer: Gianlorenzo BERNINI

Given a lesser known painting name the artist FTP each. If you need a better known painting you'll only receive five points.

A. 10: Madame Recamier
5: Oath of the Horatii

Answer: Jacques Louis DAVID

B. 10: Apotheosis of Homer
5: Turkish Bath

Answer: Jean August Dominique INGRES

C. 10: Martyrdom of St. Maurice and Theban Legion
5: Burial of Count Orgaz

Answer: EL GRECO

Given the U.S. city, name its largest circulating daily newspaper FTP each.

A. Sacramento

Answer: BEE

B. Seattle

Answer: POST-INTELLIGENCER

C. Wichita

Answer: EAGLE