

1993 PRINCETON INVITATIONAL

Williams B

TOSSUPS

1. For a quick ten points, in what geographic epoch was the last ice-age?

A: PLEISTOCENE

2. You hardly need to get your head lopped off by Henry VIII to have a play written about you, but it helps. FTP, name the great intellectual and statesman portrayed in Robert Bolt's play "A Man for All Seasons."

A: Sir Thomas MORE

3. FTP, which actress surprised many by winning the Academy Award for "Best Supporting Actress" this year for her role in My Cousin Vinny.

A: Marisa TOMEI

4. Which musical by Stephen Sondheim is based on a painting by George Seurat?

A: SUNDAY IN THE PARK WITH GEORGE

5. When integrating over a volume in rectangular coordinates, dV is denoted by " $dx dy dz$ ". In spherical coordinates, where points are labelled by radius " ρ " and angles " ϕ " and " θ ", what is dV ?

A: $(\rho)^2 \sin(\phi) d(\rho) d(\phi) d(\theta)$ [also accept " $\sin(\theta)$ " for " $\sin(\phi)$ "; the order of the terms does not matter]

6. For ten points, what are you if you've got your very own epicarp, mesocarp, and endocarp?

A: a FRUIT

7. Of all the elements, only one's name starts with the letter "V".

For ten points, what is it?

A: VANADIUM

8. Take the first name of the former vice president with the same last name as our president, and the last name of the first president under whom he served, and you get a popular television character. For ten points, name him.

A: GEORGE JEFFERSON

9. Due to their strategic positions at the entrance and egress of the Black Sea, the Bosphorus and the Dardanelles have always been a site of conflict. Name the sea, presently controlled by Turkey, which lies in between them.

A: Sea of MARMARA

10. He said, "I have no head for human problems" when declining the leadership of Israel. FTP, name this physicist.

A: Albert EINSTEIN

11. He is best known as a painter. A pioneer of humanism and scientific naturalism in the Italian Renaissance, he was also an architect, and designed the bell tower of the cathedral in Florence.

FTP, what is his name?

A: GIOTTO DI BONDONE ["Di Bondone" and "Giotto" are acceptable.]

12. While in retirement on the isle of Capri (pronounced "CApri") he would often hold philosophical discussions near the edge of a high precipice so that he could send those who disagreed with him hurtling to a bloody death. FTP, name this second emperor of Rome and successor of Augustus.

A: TIBERIUS

13. If a matrix is singular, it means that this quantity associated with it is zero. FTP, name this quantity.

A: DETERMINANT

14. The character of Dill in To Kill a Mockingbird is based on a childhood friend of Harper Lee's. FTP, name this man who gained his own fame by writing a novel based on the real-life murder of the Clutter family.

A: Truman CAPOTE

15. He briefly worked as a roadie for the Doors, prompting Jim Morrison to remark on his rugged good looks. FTP, who is this actor who starred in Blade Runner, Star Wars, and other box office hits?

A: Harrison FORD

16. FTP, what name is given to a gas that obeys the law $PV=nRT$?

A: an IDEAL GAS

17. In the movie Memphis Belle, one of the characters recites a poem he didn't write: "I know that I shall meet my fate/Somewhere among the clouds above;/Those that I fight I do not hate,/Those that I guard I do not love..." FTP, who did write "The Irish Airman Foresees his Death"?

A: William Butler YEATS

18. One of the last men you would expect to win the Nobel Peace Prize won it for helping to settle this war, ended by the treaty of Portsmouth in 1905. FTP, what war did Teddy Roosevelt help end?

A:
the RUSSO-JAPANESE war

19. For an easy ten points, "Ma is a nun, as I am" is an example of what?

A: PALINDROME

20. Let's get busy with cellular biology: this organelle is described either as "rough", when dotted with ribosomes, or "smooth" when it is not. FTP, name it.

A: ENDOPLASMIC RETICULUM

21. You've never had a better chance to earn ten points than you do right now if you name Samuel Johnson's famous biographer.

A: James

BOSWELL

22. For any closed surface in an arbitrary vector field, the net outward flux through the surface is equal to the net divergence over the volume of the surface. FTP, name this theorem.

A: GAUSS' THEOREM

23. FTP, what is that thing that hangs down at the back of your throat?

A: the UVULA

1993 PRINCETON INVITATIONAL

Williams B

BONUSES

1. 30-20-10 Name this country: 1) The Greenpeace ship "Rainbow Warrior" was sunk while in its waters. 2) It dissolved the ANZUS pact when it refused to allow nuclear-powered U.S. ships to dock at all its ports. 3) Its chief cities include Christchurch, Wellington, and Auckland.

A: NEW ZEALAND

2. 30 points) You hardly need to get your head lopped off by Henry VIII in order to have a song written about you, but it helps. Rick Wakeman wrote music about two of Henry's victims in his first solo outing, "The Six Wives of Henry VIII".

For five points each, name Henry's wives.

A:

CATHERINE OF ARAGON, ANNE BOELYN, JANE SEYMOUR, ANNE OF CLEVES, CATHERINE HOWARD, CATHERINE PARR

3. (25 points) In the 1920s and 30s, the Supreme Court adopted a "laissez-faire" approach to regulating business in America. For 25 points, which Supreme Court case, gave the name to this era?

A: LOCHNER v. NEW YORK

4. Neuromancer by William Gibson was the first novel to win all three of the most prestigious awards in the science fiction genre.

For ten points each, name them.

A: the HUGO, the NEBULA, and the PHILIP K. DICK awards

5. For thirty points, name the only country ever to fully pay back a U.S. wartime loan from World War II.

A: FINLAND

6. For an all or nothing thirty points, name all six members of Monty Python.

A: Graham CHAPMAN, Eric IDLE, John CLEESE, Michael PALIN, Terry JONES, Terry GILLIAM

7. Given a line from a Shakespeare play, name the play for five points each:

"O, beware, my lord, of jealousy. It is the green-eyed monster which doth mock the meat it feeds on."

A: OTHELLO

"Tomorrow, and tomorrow, and tomorrow, creeps in this petty pace from day to day, to the last syllable of recorded time."

A: MACBETH

"We are such stuff as dreams are made on, and our little life is rounded with a sleep."

A: THE TEMPEST

"All the world's a stage"

A: AS YOU LIKE IT

8. Given the opera, for five points each, name the composer:

La Boheme
A: PUCCINI
La Traviata
A: VERDI)
The Barber of Seville
A: ROSSINI
Candide
A: BERNSTEIN

9. You all obviously know that 1,000,000,000,061 and 1,000,000,000,063 are both prime numbers, but what you may not know that 5 and 7 are also primes. For thirty points, what are these pairs of prime numbers separated solely by an even number called? A: ADJACENT PRIMES

10. For 5 points each, give the English names of these Italian fruits:
cacco A: PERSIMMON
pompelmo A: GRAPEFRUIT
fragola A: STRAWBERRY
anguria A: WATERMELON
fichi d' india A: PRICKLY PEAR

11. You don't have to be "thick as a brick" to get twenty points and name this inventor of the seed drill. A: JETHRO TULL

12. You'll get ten points for each question on the Sherlock Holmes stories you can answer:
1) What was the "speckled band"? A: a SNAKE
2) To whom did Holmes always refer to as "_the_ woman"? A: IRENE ADLER
3) What was hidden on the spot located in the cryptic "Musgrave ritual"? A: the CROWN OF ENGLAND

13. To find a Pythagorean triple, one needs to find nonzero integers a, b, and c for which $a^2+b^2=c^2$. For twenty points, what is the general name for an equation with integral solutions?
A: DIOPHANTINE equation

14. You may have heard of a pride of lions, but you will get more pride, and thirty points, if you can identify these other names for groups of animals:
1) a murder A: CROWS
2) an exaltation A: LARKS
3) a rafter A: TURKEYS
4) a pod A: WHALES
5) a smack A: JELLYFISH

15. This yet-unproved proposition in number theory says that all even numbers greater than or equal to 4 can be written as the sum of two primes. For 25 points, what is this conjecture called?
A: The GOLDBACH Conjecture

16. For thirty points, all or nothing, name the six types of quark. A: UP, DOWN, CHARM, STRANGE, BOTTOM, TOP

17. For twenty points, what is the divergence of the curl of any vector field?
ZERO

18. For 25 points, all or nothing, name in order the first five books of the Old Testament A: GENESIS, EXODUS, LEVITICUS, NUMBERS, DEUTERONOMY

19. 30-20-10

30)As a critic he coined the phrase "willing suspension of disbelief".

20)He wrote "Christabel".

10)He wrote "The Rime of the Ancient Mariner"

A: Samuel Taylor COLERIDGE

20. For ten points each, give the name of the following literary characters: 1) Hawkeye, hero of _The Last of the Mohicans_

A:NATTY BUMPO

2) The title character's monstrous creation in

Frankenstein

A: ADAM