

# NEW TRIER VARSITY 2009

## ROUND 3



1. He travelled to North Africa in his thirties, where he painted two versions of *Women of Algiers* and *A Moroccan Saddling His Horse*. For 10 points each:

[10] Name this artist who also painted a king watching all of his stuff get destroyed before he himself will be killed in *The Death of Sardanapalus*.

ANSWER: Ferdinand Victor Eugène **Delacroix**

[10] This Delacroix work shows a rifle-wielding man with a top hat and a pistol-wielding twelve-year-old next to a topless woman bearing the French flag.

ANSWER: ***Liberty Leading The People*** [or *La Liberté guidant le peuple*]

[10] Men, women, and children appear depressed and chained and a Turkish soldier tames his horse on the right in this Delacroix painting of a historical slaughter of thousands of Greeks on an island.

ANSWER: *The **Massacre at Chios*** [or *Scène des **massacres de Scio***]

2. It was granted its charter in 1600 by Queen Elizabeth I, and it was led by a Governor, a Court of Directors and a Court of Proprietors. For 10 points each:

[10] Name this company that effectively ruled India for 100 years with the rights to raise armies, to acquire land, to mint money and have legal authority over its land.

ANSWER: British **East India** Trading Company [accept English **East India** Trading Company]

[10] In this battle, British East India Company forces were vastly outnumbered by troops of the Nawab of Bengal, but won through treachery and deceit to seal British control of India.

ANSWER: Battle of **Plassey**

[10] This man commanded the British troops in the Battle of Plassey. He is also known for creating a large British colony in India.

ANSWER: Robert **Clive**

3. William Kelly discovered it independently in 1851. For 10 points each:

[10] Name this process, patented in 1851 and named for an Englishman, which uses oxidation to remove impurities from molten pig iron and thus produce steel cheaply.

ANSWER: **Bessemer** process [or Harry **Bessemer**; or **Bessemer**-Kelly Process]

[10] The Bessemer process was used by this extremely rich Scottish steel magnate who built an eponymous concert hall in New York and whose eponymous Steel Company became U.S. Steel.

ANSWER: Andrew **Carnegie**

[10] Andrew Carnegie also wrote this 1889 essay in which he argued that the new, self-made rich of America had a duty to be philanthropists according to the title principle.

ANSWER: "The Gospel of **Wealth**"

4. Time for your weird interdisciplinary bonus of the day — for 10 points each, name these stains:

[10] Lead strips are often used as a joining medium in this art form associated with Marc Chagall.

ANSWER: stained glass

[10] This process in biology is used to categorize bacteria according to how much peptidoglycan is present in their cell walls.

ANSWER: Gram staining

[10] This Philip Roth novel features Coleman Silk, a former professor of classics who befriends Nathan Zuckerman.

ANSWER: *The Human Stain*

5. Answer the following regarding events of October and November, 1956.

[10] Revolution broke out in this Soviet satellite state on the 23rd of October, 1956.

ANSWER: Hungary

[10] The Hungarian revolutionaries tore down a thirty-foot tall statue of this Soviet leader who had died in 1953 and dragged it through the streets.

ANSWER: Joseph Stalin [or Ioseb Jughashvili]

[10] The Hungarian revolution was led by this prime minister, who was executed in 1958 for his role in the uprising.

ANSWER: Imre Nagy

6. It binds to tubulin, paralyzing microtubules in a cell. For 10 points each:

[10] Name this toxic chemical, a common spindle poison, which is used as a cream in botany, and with probenecid, is used to treat gout in humans.

ANSWER: colchicine

[10] Because colchicine paralyzes the mitotic spindle, it inhibits chromosome segregation, multiplying the chromosome number and leading to this phenomenon exhibited by wheat and bananas, among other plants.

ANSWER: polyploidy [accept diploidy]

[10] While many polyploid plants are fertile, polyploid animals typically are not, and often reproduce by this process in which eggs develop into embryos without fertilization. It is sometimes used by brine shrimp and a few reptiles.

ANSWER: parthenogenesis [prompt on asexual reproduction]

7. You've undoubtedly had to read a plethora of short stories in your time as a student due to their being bite-sized, so let's show off what you've learned.

[10] This story by Kate Chopin centers on a woman who has a child with the Creole gentleman Armand, only to find out that the baby is one-quarter black, leading to a whole bunch of problems for the Southern family.

ANSWER: "Désirée's Baby"

[10] This story tells of Peyton Farquhar, a confederate sympathizer who thinks about his wife and children as he waits to be hanged.

ANSWER: "An Occurrence at Owl Creek Bridge" [accept "An Incident at Owl Creek Bridge"]

[10] This Edgar Allan Poe short story concerns a narrator who murders an old man because he is scared by his "vulture eye", but the title object is still audible.

ANSWER: "The Tell-Tale Heart"

8. This area's namesake national forest is headquartered in the city of Custer. For 10 points each:

[10] Name this area of the western United States that takes its name from the deep valleys that absorb light, and that includes Harney Peak, the highest mountain east of the Rockies.

ANSWER: **Black Hills** [or **Paha Sapa**]

[10] The Black Hills are mostly found in this state, also known for its badlands.

ANSWER: **South Dakota**

[10] Badlands can also be found in this North Dakota national park, home to the Maltese Cross and Elkhorn cattle ranches.

ANSWER: **Theodore Roosevelt** National Park [prompt on **Roosevelt**; do not accept or prompt on **Teddy Roosevelt**]

9. Participants in it flipped a coin to see which role they would play. For 10 points each:

[10] Name this 1971 experiment in which "John Wayne" and the other guards terrorized a group of "inmates".

ANSWER: **Stanford prison** experiment [accept clear-knowledge equivalents that include both parts]

[10] The Stanford prison experiment was conducted by this American psychologist who, with Richard Gerrig, wrote the textbook *Psychology and Life*.

ANSWER: Philip **Zimbardo**

[10] Philip Zimbardo also founded an institute in California that uses "social fitness" to help people overcome this emotional phenomenon, for which it is named.

ANSWER: **shyness** [accept obvious equivalents]

10. Tachyons are theoretical particles that exceed this limit. For 10 points each:

[10] Name this constant of nature, equal by definition to about 300 million meters per second.

ANSWER: **speed of light** [or **c**-naught]

[10] The speed of light was found to be the same in all directions by the Michelson-Morley experiment, which used this device to split and recombine a light beam.

ANSWER: optical **interferometer**

[10] The Michelson interferometer can also be used to detect these space-time disturbances sought by the LIGO experiment.

ANSWER: **gravitational waves** [accept **gravity waves**]

11. Name these Anglo-American philosophers, for 10 points each:

[10] This man derided atheism but encouraged toleration of all other religions in his *Letter Concerning Toleration*, but is better known for his *Essay Concerning Human Understanding*.

ANSWER: John **Locke**

[10] This philosopher co-authored the *Principia Mathematica* with Whitehead and wrote the influential *Why I Am Not a Christian*.

ANSWER: Bertrand **Russell**

[10] This philosopher wrote *Word and Object* and became a fundamental contributor to analytic philosophy with his essay *Two Dogmas of Empiricism*.

ANSWER: Wilard Van Orman **Quine**

12. For 10 points each, identify some works of Franz Kafka.

[10] In this Kafka novella, some apples are thrown at Gregor Samsa, who finds himself transformed into an insect after awaking from “uneasy dreams”.

ANSWER: *The Metamorphosis* [or *Der Verwandlung*]

[10] In this short story, “The Officer” oversees a machine which tattoos and kills criminals over the course of twelve hours in the title location.

ANSWER: “In the Penal Colony” [or “In der Strafkolonie”]

[10] This other short story became the first chapter of *Amerika* and sees Karl Rossman confront a captain of a ship so that the title character won’t get fired.

ANSWER: “The Stoker” [or “Der Heizer”]

13. The directional type of this operator can be found by dotting the gradient vector with a particular unit vector. For 10 points each:

[10] Name this mathematical operation that, in its most elementary form, gives the slope of a function’s tangent line.

ANSWER: differentiation [accept derivative; accept word forms of either]

[10] Derivatives underlie these representations of functions as polynomials; the one for  $\epsilon$  to the  $x$  centered at  $x$  equals zero is one, plus  $x$ , plus one-half  $x$  squared, plus one-sixth  $x$  cubed, dot dot dot.

ANSWER: Taylor series [accept Taylor polynomials; accept Maclaurin series/polynomials]

[10] Taylor series can be extended to complex functions with these functions, defined around both a point and a path of integration, and including negative-degree terms.

ANSWER: Laurent series [accept Laurent polynomials]

14. The title track of this album features the artist on tenor saxophone making quick key changes between G, B, and E flat, each a major third apart. For 10 points each:

[10] Name this 1959 album which also includes the songs “Naima” and “Countdown”.

ANSWER: Giant Steps

[10] The albums *Giant Steps* and *My Favorite Things* are by this saxophonist, who was featured on Miles Davis’ *Kind of Blue*.

ANSWER: John William Coltrane

[10] This Coltrane album expressed his spirituality and fused hard bop and free jazz in four sections titled Acknowledgement, Resolution, Pursuance, and Psalm.

ANSWER: A Love Supreme

15. This author wrote a play in which the Captain’s wife takes custody of Bertha. For 10 points each:

[10] Name this playwright of *The Father* and a play in which the manservant Jean convinces the title character, *Miss Julie*, to kill herself with a razor.

ANSWER: Johan August Strindberg

[10] Strindberg was from the same country as this author of *The Wonderful Adventures of Nils* and the *Gösta Berlings Saga*.

ANSWER: Selma Lagerlöf

[10] In 1909, Selma Lagerlöf became the first woman to win the Nobel Prize in Literature, which was awarded to her in this country, her home and that of Strindberg, Pär Lagerkvist, and Pippi Longstocking.

ANSWER: Kingdom of Sweden [or Swedish; or Konungariket Sverige]

**16.** This case originated when a DC judicial appointee's commission was not delivered. For 10 points each:

[10] Name this 1803 Supreme Court case that established the principle of judicial review.

ANSWER: Marbury v. Madison [accept either or both parts]

[10] *Marbury v. Madison* was decided by a court led by this fourth chief justice of the United States.

ANSWER: John Marshall

[10] While the *Marbury* decision only established judicial review for *federal* laws, seven years later that principle was extended to state laws by this case, which ruled that a Georgia law rescinding the granting of land around the Yazoo river was unconstitutional.

ANSWER: Fletcher v. Peck [accept either or both parts; accept answers in either order]

**17.** Certain complexes of these elements exhibit the Jahn-Teller effect. For 10 points each:

[10] Name this group of metals, which have properties that vary according to their partially filled *d* orbitals, and are stable in multiple oxidation states. Nearly all of them have a stable plus-two oxidation

ANSWER: transition metals [or transition elements; or transition series]

[10] This transition metal is used to catalyze ethylene into ethylene oxide, and its widely used antibacterial properties are amplified by the application of an electric field.

ANSWER: silver

[10] This transition metal is slightly more dense than iridium, making it the most dense known element in the universe.

ANSWER: osmium

**18.** Name the following works by Charles Dickens, for 10 points each:

[10] Madame Defarge is an integral part of the French Revolution in this work, which ends with Sydney Carton dying in place of Charles Darnay.

ANSWER: A Tale of Two Cities

[10] Smike is actually Ralph's son, making him a cousin of the titular protagonist who hates Squeers in this early Dickens work.

ANSWER: *The Life and Adventures of* Nicholas Nickleby

[10] Arthur Clennam is imprisoned at Marshalsea, which is also home to William and his children, in this scathing attack on the system of debtors prisons.

ANSWER: Little Dorrit

**19.** Identify the following gods from Aztec mythology for 10 points each:

[10] This plumed serpent god organized the cosmos and was a participant in the creation and destruction of the worlds.

ANSWER: Quetzalcoatl

[10] This twin brother of Quetzalcoatl is the god of lightning, and also guides the dead to the lowest layer of the underworld.

ANSWER: Xolotl

[10] This Aztec sun god decapitated Coyolxauhqui (co-yol-ZOW-kee) and chucked her head into the sky, which became the moon.

ANSWER: Huitzilopochtli (whee-tzee-loh-POKT-lee)

20. Two cheetahs pull a chariot in a painting of the island Naxos while a small dog sits at the foot of a red lounge in another painting by this painter. For 10 points each:

[10] Name this painter whose *Bacchus and Ariadne* depicts a Greek mythological story, and who painted a nude woman lying down in *Venus of Urbino*.

ANSWER: **Titian** [or Tiziano **Vecelli**]

[10] Titian took this man under his wing for a week or two who is best remembered for biblical illustrations such as *Christ Before Pilate*, *The Miracle of the Slave*, and a version of the Last Supper, which features a fiery lamp in the top left that illuminates the scene.

ANSWER: **Tintoretto** [or Jacopo **Robusti**; or Jacopo **Comin**]

[10] This third of the “Venetian Three” painted three huge arches behind his elaborate version of the Last Supper and later renamed it *Feast in the House of Levi*.

ANSWER: Paolo **Veronese** [or Paolo **Cagliari**; or Paolo **Caliari**]