



### Tossup 1: Science — Biology

All deuterostomes have one of these, though not all triptoblasts do. When filled with fluid, these can form open circulatory systems, as they do in mollusks, or they can complement a closed circulatory system, as they do in chordates. Roundworms have a reduced form of this, and flatworms lack one entirely, though they have a mesoderm. Thought to evolve from gastric pouches, name this empty space inside animals lined by mesoderm.	<b>Coelom</b> ( <i>accept <u>body cavity</u></i> )
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### Bonus 1: Social Studies — U.S. History

Identify these preachers from colonial America.	
<b>A</b>	Phyllis Wheatley wrote a poem commemorating this Methodist, who went to school with John Wesley. <b>George <u>Whitefield</u></b>
<b>B</b>	This author of <i>Sinners in the Hand of an Angry God</i> was the President of what is now Princeton University. <b>Jonathan <u>Edwards</u></b>
<b>C</b>	This Puritan wrote a work about King Philip's War, and was the President of Harvard at the end of the 17th century. <b>Reverend <u>Increase Mather</u></b> ( <i>prompt on Mather</i> )
<b>D</b>	This son of the answer to part C wrote <i>Magnalia Christi Americana</i> . <b><u>Cotton Mather</u></b> ( <i>prompt on Mather</i> )



### Tossup 2: Literature — Literature

It started as a radio play dedicated to Mary, the consort of George the Fifth. Sir Richard Attenborough was in this play's opening night cast on November 25, 1952 playing Detective Sergeant Trotter. Because the author wanted to maintain the suspense, the book was ordered not to be published until the play closed, and therefore, one is still unable to buy a copy in the U.K. Name this longest running London play, written by Agatha Christie.

**The Mousetrap**

### Bonus 2: Math — Calculus

Given  $f(x) = 2x^2 - \cos(2x)$ , find the following:

<b>A</b>	The first derivative of $x$	<b><u>4x plus 2 sine of 2x</u></b>
<b>B</b>	The second derivative of $x$	<b><u>4 plus 4 cosine of 2x</u></b>
<b>C</b>	The third derivative of $x$	<b><u>-8 sine of 2x</u></b>
<b>D</b>	The maximum value of the 3rd derivative of $x$ .	<b><u>8</u></b>



### Tossup 3: Social Studies — World History

<p>During this conflict, Britain sided with traditional enemy Prussia, because they promised to protect George II's homeland, Hanover. Austria's aim was to retake Silesia, which had been taken by Frederick the Great a decade earlier in the War of the Austrian Succession. Name this war whose North American theater consisted of the French and Indian War, and that lasted from 1756-1763.</p>	<p><b><u>Seven Years War</u></b></p>
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### Bonus 3: Fine Arts — Music

<p>Answer the following about use of the reed instruments in classical music.</p>		
<b>A</b>	<p>Percy Granger's Lincolnshire Posy and Ravel's orchestration of Pictures at an Exhibition both feature solos for this type of instrument, not normally included in orchestras.</p>	<p><b>Soprano <u>saxophone</u></b></p>
<b>B</b>	<p>This work by Stravinsky features 4 oboes, an English horn, 4 clarinets, a bass clarinet, 4 bassoons, and a contrabassoon, and starts with a soft, high bassoon solo.</p>	<p><b>The <u>Rite of Spring</u></b> (<i>accept <u>Le Sacre du Printemps</u></i>)</p>
<b>C</b>	<p>Speaking of early bassoon solos, this work features a descending bassoon solo above the repetitive snare drum ostinato.</p>	<p><b><u>Bolero</u></b></p>
<b>D</b>	<p>This composer's Concerto for Clarinet and Orchestra in A Major was originally written for an extended lower-range clarinet and finished just months before his December 1791 death.</p>	<p><b>Wolfgang Amadeus <u>Mozart</u></b></p>



### Tossup 4: Math — General

The largest known one is almost ten million digits long, and is one less than a power of two, making it a Mersenne one of these. Goldbach's conjecture states that every even integer greater than two can be expressed as the sum of two of these, and the fundamental theorem of arithmetic states that every natural number can be uniquely factored into these. Name these numbers that are only divisible by themselves and the number one.

Prime numbers

### Bonus 4: Social Studies — Geography

Identify these cold, cold places.

- |          |   |
|----------|---|
| <b>A</b> | In terms of area, this is the largest island in the world.                                |
| <b>B</b> | This island has its capital at Reykjavík ( <i>RAKE-yuh-vick</i> ).                        |
| <b>C</b> | In terms of area, this is the largest island in Canada.                                   |
| <b>D</b> | This large island east of Russia is separated from the mainland by the Strait of Tartary. |

Greenland

Republic of Iceland

Baffin Island

Sakhalin



### Tossup 5: Fine Arts — Visual Art

<p>Its Denon Wing was started by Catherine de Medici, and a collection donated by Baron Edmond de Rothschild occupies an entire exhibition room in this building. A design to expand this building by Bernini was turned down by Louis XIV, and in March 2007, it announced plans to open a satellite location in Abu Dhabi. With a controversial Pyramid designed in 1989 by I.M. Pei, identify this Parisian home of the Mona Lisa.</p>	<p><b>The <u>Louvre</u> Museum</b> (<i>accept Musée du <u>Louvre</u></i>)</p>
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### Bonus 5: Miscellaneous — Sports

<p>Answer these questions related to offseason happenings in Major League Baseball.</p>		
<p><b>A</b></p>	<p>The Florida Marlins dealt Dontrelle Willis and this player to the Detroit Tigers in exchange for Andrew Miller and Cameron Maybin, among others.</p>	<p><b>Miguel <u>Cabrera</u></b></p>
<p><b>B</b></p>	<p>The Cubs signed this Japanese outfielder at a deal that averages over 10 million dollars a season.</p>	<p><b>Kosuke <u>Fukudome</u></b></p>
<p><b>C</b></p>	<p>Former Sox outfielder Aaron Rowand signed with this team for a multi-million dollar contract.</p>	<p><b><u>San Francisco Giants</u></b> (<i>accept either half</i>)</p>
<p><b>D</b></p>	<p>The White Sox signed this middle infielder and Cuban defector to a four year deal.</p>	<p><b>Alexei <u>Ramirez</u></b></p>



### Tossup 6: Social Studies — U.S. History

<p>The man who led it fought at the Battle of Bunker Hill, but he had not led a force such as the 1,200 he commanded in this event. It was started in part because of rising taxes, and it took the government many months to form a militia to put it down. Name this 1780s rebellion that occurred in Massachusetts.</p>	<p><b><u>Shays Rebellion</u></b></p>
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### Bonus 6: Math — General

<p>Name these mathematicians, given some of their contributions.</p>		
<b>A</b>	<p>This German prodigy first proved the law of quadratic reciprocity, in addition to his work on magnetism.</p>	<p><b>Carl Friedrich <u>Gauss</u></b></p>
<b>B</b>	<p>This female Italian wrote the first book on both differential and integral calculus. <math>y</math> equals one over the quantity 1 plus <math>x</math> squared is an example of her namesake curve.</p>	<p><b>Maria <u>Agnesi</u></b></p>
<b>C</b>	<p>This Greek mathematician developed a sieve for finding prime numbers.</p>	<p><b><u>Eratosthenes</u></b></p>
<b>D</b>	<p>This man's zeta function is the focus of his famous unsolved hypothesis.</p>	<p><b>Bernhard <u>Riemann</u></b></p>



### Tossup 7: Miscellaneous — Entertainment

<p>This man was discovered when he recorded a song at Sun Studios for a birthday gift for his mother. His first hit was a cover of Big Boy Crudup's That's All Right, and his band included Scotty Moore and Bill Black. In 1955 he left for RCA, where he recorded his most famous songs, but in 1957 he was drafted into the Army. Under the direction of his manager, Col. Tom Parker, he appeared in many movies, but he was still most notable for his music. Name this King of Rock and Roll who sang hits such as Heartbreak Hotel and Jailhouse Rock.</p>	<p><b><u>Elvis Presley</u></b> (<i>accept either half of name</i>)</p>
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### Bonus 7: Literature — Mythology

<p>Identify these objects from Norse mythology, all of which end in "-ir".</p>		
<p><b>A</b></p>	<p>This hammer of Thor was indestructible and returned to one's hand after being thrown.</p>	<p><b><u>Mjollnir</u></b></p>
<p><b>B</b></p>	<p>This spear of Odin never missed its mark.</p>	<p><b><u>Gungnir</u></b></p>
<p><b>C</b></p>	<p>This boat owned by Frey could sail over both land and sea and could be collapsed to fit in one's pocket.</p>	<p><b><u>Skidbladnir</u></b></p>
<p><b>D</b></p>	<p>This golden arm ring of Odin created eight identical replicas of itself every nine nights.</p>	<p><b><u>Draupnir</u></b></p>



### Tossup 8: Math — Calculus (Computational: 30 Seconds)

Find the acceleration at  $t$  equals 4 of a particle which follows the path  
of  $t$  equals  $6t$  cubed minus  $12t$  squared plus  $4t$  plus 1.

120 units per second squared

### Bonus 8: Science — Earth Science

Given a description, identify the type of volcano.

<b>A</b>	This large volcano has a circular collapse crater, as well as gentle slopes.	<b><u>Shield</u> volcano</b>
<b>B</b>	This small volcano has steep sides and a large crater with uneven sides.	<b><u>Cinder cone</u> volcano</b> ( <i>prompt cone volcano</i> )
<b>C</b>	This odd type of volcano contains little lava, and looks more like a crater than a mountain.	<b><u>Maar</u></b>
<b>D</b>	This big volcano has steep sides with a small crater at the top, and its name comes from its differing layers.	<b><u>Composite</u> volcano</b> ( <i>accept strato volcano</i> )





### Tossup 9: Literature — Mythology

The giant Chrysaor was born of this woman, along with his more famous brother, after her death. Ovid and Pindar claimed that she was originally beautiful, only gaining her terrifying looks after being raped by Poseidon. King Polydectes sent Perseus to kill her, and Perseus then used her severed head to kill him. Identify this mythological being, the mother of Pegasus, one of the three Gorgons, whose image could turn men to stone.

Medusa

### Bonus 9: Math — Other

You roll two fair six-sided dice. What is the probability of the following events occurring?

<b>A</b>	You roll a prime number sum.	<u>5/12</u>
<b>B</b>	You roll a sum less than or equal to five.	<u>5/18</u>
<b>C</b>	You roll a six and a four.	<u>1/18</u>
<b>D</b>	You roll two numbers which, when placed next to each other, comprise a two-digit perfect square.	<u>5/36</u>



### Tossup 10: Science — Chemistry

This reaction's catalyzed pathway was studied in depth by Gerhard Ertl, in work on surface chemistry contributing to his 2007 Nobel Prize. Invented by its namesake in the early twentieth century, the product of this reaction is consumed in the Ostwald process to create nitric acid. Performed at 250 atmospheres and 500 degrees Celsius with an iron catalyst, this industrial reaction produces 100 million tons of fertilizer a year. Name this industrial process which converts nitrogen and hydrogen gas to ammonia.

Haber(-Bosch) process

### Bonus 10: Literature — Literature

Answer the following about literary castles.

**A** After becoming king, Macbeth takes up residence at this locale on top of a hill.

Dunsinane

**B** The action in Hamlet takes place inside this Danish castle.

Elsinore

**C** K, a land surveyor, attempts to do everything in his power to gain access to the title locale in his 'The Castle'.

Franz Kafka

**D** This title locale of a Gothic novel by Horace Walpole crumbles to the ground after part of its armament falls on Manfred's son.

The Castle of Otranto

**END OF FIRST HALF – 2 minute timeout**



### Tossup 11: Literature — Literature

<p>First and last names required. A member of the Ninth Machine-gun Battalion of the Third US Army Division, he eventually returns to the Midwest following the action of the novel he is featured in. Originally from Minnesota, in his "younger and more vulnerable years" his father gave him some advice that he has been turning over in his mind ever since. Heeding that advice and avoiding the judgment of people, identify this narrator of <i>The Great Gatsby</i>.</p>	<p><u>Nick Carraway</u></p>
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### Bonus 11: Miscellaneous — Entertainment

<p>Given a description, identify the movie or TV show which starred Leonardo DiCaprio.</p>		
<p><b>A</b></p>	<p>DiCaprio had his breakout role playing Jack Dawson opposite of Kate Winslet in this 1997 film.</p>	<p><u>Titanic</u></p>
<p><b>B</b></p>	<p>Starring alongside Sharon Stone, DiCaprio played Gene Hackman's son in this 1995 western.</p>	<p><u>The Quick and the Dead</u></p>
<p><b>C</b></p>	<p>DiCaprio portrayed con artist Frank Abagnale Jr. in this 2002 film, which also starred Tom Hanks.</p>	<p><u>Catch Me If You Can</u></p>
<p><b>D</b></p>	<p>DiCaprio had a small role as Luke in this TV series, which starred Kirk Cameron as Mike Seaver, with Tracey Gold as his sister Carol.</p>	<p><u>Growing Pains</u></p>



### Tossup 12: Math — Algebra (Computational: 30 Seconds)

In an arithmetic series, the first term equals 2 and the second term equals 9. Find the sum of the first 27 terms in the series.

2511

### Bonus 12: Science — Chemistry

Give the molecular geometry of each of the following molecules, as predicted by VSEPR (*vesper*) theory. For example, the answer to NH<sub>3</sub>, or ammonia, would be "trigonal pyramidal."

<b>A</b>	CH <sub>4</sub> , or methane	<u>Tetrahedral</u>
<b>B</b>	H <sub>2</sub> O, or water	<u>Bent</u>
<b>C</b>	CO <sub>2</sub> , or carbon dioxide	<u>Linear</u>
<b>D</b>	BF <sub>3</sub> , or boron trifluoride	<u>Trigonal planar</u>



### Tossup 13: Miscellaneous — Other

<p>This fast food chain was started in the 1950s in Florida by David Edgerton and James McLamore. In 1967 it was bought by Pillsbury and expanded internationally. Within the past few years, their commercials have featured singer Darius Rucker, and more famously, a royally dressed character who runs around giving people hamburgers. Name this chain famous for their whoppers.</p>	<p><b><u>Burger King</u></b></p>
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### Bonus 13: Fine Arts — Visual Art

<p>Identify the following Dutch works of art from a description.</p>		
<p><b>A</b></p>	<p>This Bosch work, the center panel of a triptych, depicts the Creation and the descent of sin onto man.</p>	<p><b><u>The Garden of Earthly Delights</u></b></p>
<p><b>B</b></p>	<p>This Rembrandt work depicts a man dissecting the arm of a corpse.</p>	<p><b><u>The Anatomy Lesson of Dr. Nicolaes Tulp</u></b></p>
<p><b>C</b></p>	<p>Sometimes referred to as "The Mona Lisa of the North" this Vermeer work contains pretty much exactly what the title would indicate.</p>	<p><b><u>The Girl with a Pearl Earring</u></b> <i>(accept <u>Het meisje met de parel</u>)</i></p>
<p><b>D</b></p>	<p>Van Gogh deliberately used ugly models in this painting which depicts five people sharing a meal.</p>	<p><b><u>The Potato Eaters</u></b></p>



### Tossup 14: Science — Earth Science

<p>It was first proposed by Alfred Wegener in the 1920s. This is a C-shaped body enclosing the Tethys Sea, and surrounded by the Panthalassa Ocean. It existed about 250 million years ago, following the breakups of Rodentia and later, Gondwana. This body itself began to break up during the Jurassic Period, leading to the formation of the Atlantic. Name this supercontinent whose name comes from the Greek for "entire Earth."</p>	<p><u>Pangaea</u></p>
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### Bonus 14: Social Studies — Other

<p>Identify these government agencies by their mottos.</p>		
<p><b>A</b></p>	<p>The motto of this Canadian police force is really "We Uphold the Law" though the the Hollywood version was "We always get our man."</p>	<p><u>Royal Canadian Mounted Police</u> (accept <i>Mounties, RCMP</i>)</p>
<p><b>B</b></p>	<p>Though it has no official motto, this federal service has long been associated with a phrase beginning, "Neither snow nor rain nor heat nor gloom of night..."</p>	<p><u>United States Postal Service</u> (accept <i>USPS, prompt on Post Office</i>)</p>
<p><b>C</b></p>	<p>When this agency, whose motto is "Always Out Front," was caught tapping phones without warrants in 2005, it was given the unofficial motto, "In God We Trust, Everyone Else We Monitor."</p>	<p><u>National Security Agency</u> (accept <i>NSA</i>)</p>
<p><b>D</b></p>	<p>The motto of this agency is "Ad astra per aspera," meaning, "A rough road leads to the stars."</p>	<p><u>National Aeronautics and Space Administration</u> (accept <i>NASA</i>)</p>



### Tossup 15: Fine Arts — Music

It opens with a theme comparable to the composer's earlier work *Idomeneo* (*id-oh-me-nay-oh*), and over the course of the work five themes are presented. The end of the fourth movement sees all five themes played in a fugue. When Johann Solomon transcribed this work for piano, he may have given it its famous nickname. Written at the end of a writing binge in summer 1788, identify this work, the forty-first and last of Mozart's symphonies.

**Jupiter Symphony** (*accept*  
*Symphony No. 41 before*  
*mentioned*)

### Bonus 15: Science — Biology

Identify these vitamins by their letter names, using a number when necessary. For example, if I said "riboflavin," the answer is "Vitamin B2."

<b>A</b>	Retinol	<b>Vitamin <u>A</u></b>
<b>B</b>	Folic acid	<b>Vitamin <u>B9</u></b> ( <i>prompt vitamin <u>B</u></i> )
<b>C</b>	Ascorbic acid	<b>Vitamin <u>C</u></b>
<b>D</b>	Thiamin	<b>Vitamin <u>B1</u></b> ( <i>prompt vitamin <u>B</u></i> )



### Tossup 16: Social Studies — Current Events

His book, "Our Benign Dictatorship," criticizes the Liberal Party's political system. Before becoming a politician in the early 1990s, this man spent years in the petroleum industry; he then received a Master's degree in economics from the University of Calgary. In 1993, he was elected into the House of Commons. Ten years later, he founded the Conservative Party of Canada, becoming its leader as it quickly gained control of Parliament. Name this current Prime Minister of Canada.

**Steven Joseph Harper**

### Bonus 16: Math — Geometry

Find the areas of the following polygons.

<b>A</b>	A triangle with sides of length 5, 6, and 7.	<b><u>6 root 6</u></b>
<b>B</b>	A kite with diagonals of length 10 and 13.	<b><u>65</u></b>
<b>C</b>	An ellipse with semi-major axes of length 4 and 8.	<b><u>32 pi</u></b>
<b>D</b>	A regular octagon with sides of length 3.	<b><u>18 root 2 + 18</u></b> ( <i>accept 18 (root 2 plus 1)</i> )





### Tossup 17: Science — Biology

<p>About twenty nanometers wide, they were first studied in the 1950s, and contain two subunits. Synthesized in the cytoplasm, in eukaryotes some become membrane-bound in the nucleus or endoplasmic reticulum, though most remain free. Made of both protein and RNA, these small structures perform translation on fragments of mRNA. Name these organelles, the only organelles present in bacteria.</p>	<p><b><u>Ribosome</u></b></p>
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### Bonus 17: Literature — Literature

<p>Identify the following about works of literature that have to do with relatively modern warfare.</p>		
<b>A</b>	<p>Narrated by the author, Anthony Swofford, this bestseller relays "a marine's chronicle of the Gulf War and other battles."</p>	<p><b><u>Jarhead</u></b></p>
<b>B</b>	<p>This novel is about Paul Bäumer (<i>BOY-mer</i>) and his friends, including Kropp and Kat.</p>	<p><b><u>All Quiet on the Western Front</u></b> <i>(accept <u>Im Westen nichts Neues</u>)</i></p>
<b>C</b>	<p>His <i>The Things They Carried</i> is about a platoon of American soldiers in the Vietnam War.</p>	<p><b>Tim <u>O'Brien</u></b></p>
<b>D</b>	<p>This Herman Wouk work tells the story of Captain Queeg and a Destroyer Minesweeper during World War II.</p>	<p><b>The <u>Caine Mutiny</u></b></p>



**Tossup 18: Math — Algebra (Computational: 30 Seconds)**

Alice, Bob, and Carol are working on a fence together. Alice could finish the entire task in 2 hours, Bob could finish the entire task in 90 minutes, and Carol could finish the entire task in half an hour. How long does it for them to complete the entire task if they work together?	<b><u>6/19</u> hours</b>
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**Bonus 18: Social Studies — World History**

Identify these facts related to Alexander II.		
<b>A</b>	Alexander succeeded this man, his father, as the czar of Russia.	<b><u>Nicholas I</u></b> ( <i>prompt on Nicholas</i> )
<b>B</b>	When Alexander took over, Russia was in the middle of this war with Britain.	<b><u>Crimean War</u></b>
<b>C</b>	In 1861, Alexander emancipated these peasant people.	<b><u>Serfs</u></b>
<b>D</b>	After many attempts, this organization finally killed Alexander in 1881.	<b><u>People's Will</u></b> ( <i>accept Narodnaya Volya</i> )



### Tossup 19: Literature — Language Arts

Give the common name. This office was abolished in 1983 by Pope John Paul the Second, as can be seen by the large number of saints that were canonized in his reign. The duty of this officer, technically called "Promoter of the Faith" was to act as the skeptic against the canonization of an individual, which led to his more common name. Identify this office, the common name of which is now applied to anyone taking an intentionally contrarian view point, even if they don't believe it.

The Devil's Advocate

### Bonus 19: Science — Physics

Given a physical quantity, name the single named SI unit which measures it. For example, if I said force, you'd say Newton.

<b>A</b>	Energy	<u>Joule</u>
<b>B</b>	Electric current	<u>Ampere</u> ( <i>prompt amp</i> )
<b>C</b>	Illuminance	<u>Lux</u>
<b>D</b>	Pressure	<u>Pascal</u>



### Tossup 20: Social Studies — U.S. History

<p>His wife Sarah would not allow him to conduct business at the White House on Sundays, even turning away ambassadors who arrived on this day. For his Presidency, he had five major goals, which included lowering the tariff and acquiring California from Mexico. After leaving office, he lived for only 103 days before dying near his home in Nashville. Name this 11th President, with the campaign slogan "Fifty-Four Forty or Fight"</p>	<p><b>James K. <u>Polk</u></b></p>
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### Bonus 20: Literature — Literature

Identify the following about literary detectives.		
<b>A</b>	This detective, generally acknowledged as the first in fiction, used what Edgar Allen Poe called "ratiocination."	<b>C. August <u>Dupin</u></b> ( <i>doo-PAN</i> )
<b>B</b>	Living in the village of St. Mary Mead, this elderly spinster is probably Agatha Cristie's most famous creation.	<b>Miss Jane <u>Marple</u></b>
<b>C</b>	Created by Mickey Spillane, this detective favored brutal violence, misogyny, and genuine rage.	<b>Mike <u>Hammer</u></b>
<b>D</b>	Notably starring in the novels <i>The Big Sleep</i> and <i>The Long Goodbye</i> , this detective was created by Raymond Chandler.	<b>Philip <u>Marlowe</u></b>

**END OF MATCH**



**Tossup A: Math — Other (Computational: 30 Seconds)**

Convert the binary number 1011 1001 to decimal. It might help to note that the value of the first four digits can be multiplied by 16 and added to the value of the second four digits to get the total.	<u>185</u>
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**Bonus A: Social Studies — U.S. History**

Answer the following about the U.S. Supreme Court		
<b>A</b>	Within ten, this is the number of justices that have served on the Supreme Court, as of 2007.	<u>110</u> (100-120)
<b>B</b>	This Chief Justice also served as Governor of Ohio and Abraham Lincoln's Secretary of the Treasury.	<b>Salmon Portland <u>Chase</u></b>
<b>C</b>	This justice from Kentucky was the only justice to have a dissenting opinion to the 1896 decision "Plessy v. Ferguson."	<b>John Marshall <u>Harlan</u></b>
<b>D</b>	He was the only Chief Justice to have a state funeral upon his death.	<b>William Howard <u>Taft</u></b>



### Tossup B: Literature — Literature

This title character is a 65-year old veteran of the Balkan Wars, but has a change of heart after encountering children mourning a Bulgar priest. He convinces a young intellectual, working on a manuscript about Buddha, to take him on as they travel to Crete to work in a mine. Name this free-spirited Greek created by Nikos Kazantzakis (*kaz-ant-ZAKH-is*).

**Alexis Zorba "the Greek"**

### Bonus B: Science — Chemistry

Give the chemical formulas for the following polyatomic ions. Do not include the charge. (*pronounce carefully*)

<b>A</b>	Ammonium	<b><u>NH4</u></b>
<b>B</b>	Tetra-borate	<b><u>B4O7</u></b>
<b>C</b>	Sulfate	<b><u>SO4</u></b>
<b>D</b>	Cyanate	<b><u>OCN</u></b>



### Tossup C: Miscellaneous — Sports

He was voted the 1998 Indiana Football Player of the Year after leading Bloomington South to a state title. During his college career, he first started for an injured Jesse Palmer, and was later second in the 2001 Heisman voting. He was the 22nd overall pick in the 2003 NFL draft, but his career has been plagued with inconsistent play and injuries. Name this former Florida quarterback, who early in the 2007 season lost his starting job to Brian Griese.	<b>Rex <u>Grossman</u></b>
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### Bonus C: Math — Algebra

Answer the following about the matrix with top row 1, 4, and bottom row 3, 6.	
<b>A</b>	What is its determinant? <b><u>-6</u></b>
<b>B</b>	What is its trace? <b><u>7</u></b>
<b>C</b>	What is its inverse? <b>Top row <u>-1, 2/3</u>, bottom row <u>1/2, -1/6</u></b>
<b>D</b>	What is its row-reduced echelon form? <b>Top row <u>1, 0</u>, bottom row <u>0, 1</u></b>



### Tossup D: Social Studies — Geography

Located in the Urubamba River valley, it is thought to have been a vacation spot for the elite members of society. It was discovered in 1911 by Hiram Bingham, though Bingham had actually been looking for Vilcabamba, the "lost city of the Incas." Name this site near Cuzco and nestled in the Andes Mountains in Peru.	<b><u>Machu Picchu</u></b>
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### Bonus D: Literature — Literature

Answer these questions about some famous collections of short stories.		
<b>A</b>	This Hawthorne collection, featuring <i>The Minister's Black Veil</i> and <i>Dr. Heidegger's Experiment</i> , took its name from the fact that all of the stories were previously published.	<b><u>Twice-Told Tales</u></b>
<b>B</b>	This author's <i>Just So Stories for Little Children</i> contains many animal origin tales like <i>How the Camel got his Hump</i> and <i>How the Leopard got his Spots</i> .	<b>Rudyard <u>Kipling</u></b>
<b>C</b>	Much better received than <i>Moby-Dick</i> five years earlier, this author's <i>Piazza Tales</i> included <i>Bartleby the Scrivener</i> and <i>The Encantadas</i> .	<b>Herman <u>Melville</u></b>
<b>D</b>	<i>May Day</i> and <i>The Diamond as Big as the Ritz</i> are among the stories found in this second F. Scott Fitzgerald collection named for the time period.	<b><u>Tales of the Jazz Age</u></b>





**Tossup E: Science — Physics (Computational: 30 Seconds)**

A 10 volt battery is attached in a circuit to two resistors in parallel, and outputs a total of 4.5 amps between those two resistors. If one of the resistors has resistance of five ohms, what is the resistance of the other resistor?	<u>4 ohms</u>
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**Bonus E: Fine Arts — Music**

Name the language in which each of the following operas was originally written.		
<b>A</b>	The Magic Flute	<u>German</u>
<b>B</b>	William Tell	<u>French</u>
<b>C</b>	Dido and Aeneas	<u>English</u>
<b>D</b>	The Love for Three Oranges	<u>Russian</u>