



### Tossup 1: Literature — Literature

<p>One character in it was born with his eyes open, having wept while in his mother's womb, leaving him incapable of loving. That character, Colonel Aureliano Buendía is largely responsible for much of the strife that takes place over the course of the work. A paradigm of Magic Realism, it regales us with the tales of seven generations worth of the Buendias family as well as a great, climactic flood near the end. Taking place in the insular community of Macondo, identify this work written by Gabriel García Márquez.</p>	<p><b>One Hundred Years of Solitude</b> (accept <u>Cien años de soledad</u>)</p>
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### Bonus 1: Social Studies — U.S. History

Identify these generals from the Civil War.		
<b>A</b>	This leader of the Army of the Potomac ran in the 1864 presidential election.	<b>George Brinton <u>McLellan</u></b>
<b>B</b>	This man nicknamed Old Fuss and Feathers was the first general-in-chief of the Union Army during the Civil War, and he also proposed the Anaconda Plan.	<b>Winfield <u>Scott</u></b>
<b>C</b>	This commander of the Army of Northern Virginia was recognized as the leader of the entire Confederate Army.	<b>Robert Edward <u>Lee</u></b>
<b>D</b>	This man served directly the answer to part C, led forces at Chickamauga and Fredericksburg, and was in command at the time of Pickett's Charge at Gettysburg.	<b>James <u>Longstreet</u></b>



### Tossup 2: Math — Other (Computational: 30 Seconds)

If you flip a fair two-sided coin four times, what is the probability that you get exactly two heads?	<u>3/8</u>
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### Bonus 2: Science — Chemistry

Given a compound, identify the shape of its molecule based on VSEPR ( <i>VESS-pur</i> ) theory.	
<b>A</b>	Sulfur dioxide <b><u>Bent</u></b>
<b>B</b>	Sulfur hexafluoride <b><u>Octahedral</u></b>
<b>C</b>	Methanal, otherwise known as formaldehyde ( <i>Note: this is not the same as methanol.</i> ) <b><u>Trigonal planar</u></b>
<b>D</b>	Phosphorus pentachloride <b><u>Trigonal bipyramidal</u></b>



### Tossup 3: Social Studies — Current Events

<p>This country is home to Lashkar-e-Taiba, a terrorist organization charged with executing a 2008 terrorist attack. Its current President is Asif Ali Zardari, whose wife Benazir Bhutto was assassinated in December 2007, near the end of the term of Pervez Musharraf. Name this middle eastern country with a capital at Islamabad that frequently fights over the Kashmir region with India.</p>	<p><b>Islamic Republic of <u>Pakistan</u></b></p>
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### Bonus 3: Math — General

Give the Greek letter used for the following.		
<b>A</b>	This letter represents the ratio between a circle's diameter and its circumference.	<b><u>pi</u></b>
<b>B</b>	This letter represents the golden ratio, and also represents Euler's totient function.	<b><u>phi</u></b>
<b>C</b>	This letter represents discriminants, the difference operator, and generally, the change in a variable.	<b><u>delta</u></b>
<b>D</b>	This letter denotes summation over an index.	<b><u>sigma</u></b>



### Tossup 4: Science — Biology

<p>Class I ones use an RNA intermediate and reverse transcriptase to reinsert themselves into the genome. Class II ones are cut and pasted using a special enzyme. Because they can disrupt genes, they are responsible for some cancers and other diseases. More notably responsible for different corn kernel colors in maize, identify these sequences of DNA discovered by Barbara McClintock, also called "jumping genes."</p>	<p><b><u>Transposons</u></b></p>
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### Bonus 4: Fine Arts — Music

<p>Identify the following French composers.</p>	
<p><b>A</b></p>	<p>This Romantic composer made contributions to the modern orchestra with his "Treatise on Instrumentation" in addition to composing his Symphony Fantastique.</p> <p><b>Louis "Hector" <u>Berlioz</u></b></p>
<p><b>B</b></p>	<p>This man composed Jeux d'enfants, or Children's Games, as well as the opera Carmen.</p> <p><b>Georges <u>Bizet</u></b></p>
<p><b>C</b></p>	<p>This composer is responsible for the ballet Daphnis et Chloé as well as the piano pieces Miroirs and Gaspard de la Nuit.</p> <p><b>Joseph-Maurice <u>Ravel</u></b></p>
<p><b>D</b></p>	<p>An avant-garde composer, he was a noteworthy writer, as well as providing us his three piano compositions, the Gymnopédies.</p> <p><b>Erik <u>Satie</u></b></p>



### Tossup 5: Miscellaneous — Interdisciplinary

<p>A Marvel comics superheroine by this name is the alter ego of Maya Lopez, a deaf girl who, at one point fell in love with Daredevil. It also names a German music award as well as a dolphin in a video game published by Sega. A nymph by this name fell in love with Narcissus and with "the Bunnymen", it forms a British post-punk group. The fifth letter of the NATO alphabet, identify this word which most commonly describes a reflection of sound which arrives at the listener after the direct sound.</p>	<p><b><u>Echo</u></b></p>
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### Bonus 5: Literature — Literature

<p>From a description, identify the following Greek plays.</p>		
<p><b>A</b></p>	<p>At the end of this Euripides play, the title princess flees with the bodies of her children in a chariot pulled by dragons.</p>	<p><b><u>Medea</u></b></p>
<p><b>B</b></p>	<p>Dionysus disguises himself as Heracles in this Aristophanes play, which features a contest between Aeschylus and Euripides and a chorus made up of the title animals.</p>	<p><b><u>The Frogs</u></b></p>
<p><b>C</b></p>	<p>The protagonist knows of the downfall of Zeus, and also predicts the fate of Io as well of how Heracles will aid him.</p>	<p><b><u>Prometheus Bound</u></b> (<i>do not accept <u>Prometheus Unbound</u></i>)</p>
<p><b>D</b></p>	<p>To avoid punishment for directly causing the death of a relative, the antagonist of this play sentences the protagonist to be buried alive.</p>	<p><b><u>Antigone</u></b></p>



### Tossup 6: Math — Algebra (Computational: 30 Seconds)

Give the x and y solutions for the pair of equations  $4x - 3y = 22$  and  $5x + 6y = 8$ .

**x = 4** and **y = -2** (accept (4, -2))

### Bonus 6: Science — Physics

Identify the following components of DC circuits:

<b>A</b>	Leyden jars were early types of these circuit elements that store charge and have strength measured in farads.	<u><b>capacitors</b></u> (accept <u>condensers</u> )
<b>B</b>	Inside those components are usually these insulating substances that separate the plates.	<u><b>dielectrics</b></u> or <u><b>dielectric materials</b></u>
<b>C</b>	These other elements oppose currents and have values measured in ohms.	<u><b>resistors</b></u>
<b>D</b>	While the answer to part two stores energy in an electric field, these components store energy in a magnetic field. They are essentially made of a coil of wire.	<u><b>inductors</b></u>



### Tossup 7: Social Studies — World History

Some of the ships associated with this entity include the Batavia, Sardam, and Vianen, and one of its early leaders was Jan Coen. Coen served as Governor General, ruling from what is now Jakarta. Spawning many imitators such as French and British versions, it was the first company to sell stock. Name this company which operated a trading empire for a northwestern European country.

**Dutch East India Company**  
*(prompt on East India; do not accept other nationalities)*

### Bonus 7: Math — Calculus

Evaluate the definite integrals of the following functions, from  $x$  equals 0 to  $x$  equals 1.

<b>A</b>	Sine of $\pi x$ .	<b><u>2 / pi</u></b>
<b>B</b>	$5x^2 + 3x$ .	<b><u>19/6</u></b>
<b>C</b>	Square root of $x$ .	<b><u>2/3</u></b>
<b>D</b>	$8x^3$ .	<b><u>2</u></b>



### Tossup 8: Miscellaneous — Interdisciplinary

<p>Gary Thuerk of Digital Equipment Corporation was the first person to propagate the electronic version of this, contacting 393 people on ARPANET. A museum dedicated to another type of it is located in Austin, Minnesota, and a Monty Python sketch about it featured a historian talking about singing vikings at one point. With one serving of it containing nearly one-third of your daily intake of sodium, identify this, both a term for unsolicited e-mail and a Hormel canned good.</p>	<p><b><u>Spam</u></b></p>
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### Bonus 8: Social Studies — Geography

<p>Though termed the Land of 10,000 Lakes, there are actually hundreds more than that in Minnesota. Let's see if you can identify them from clues!</p>	
<b>A</b>	<p>The deepest lake in Minnesota is actually the Great Lake, on the state's Northeastern border.</p> <p><b>Lake <u>Superior</u></b></p>
<b>B</b>	<p>This lake in northern Minnesota is the source of the Mississippi River.</p> <p><b>Lake <u>Itasca</u></b></p>
<b>C</b>	<p>This large lake on the Canadian border is the mouth of the Rainy River and the source of the Winnipeg River.</p> <p><b>Lake of the <u>Woods</u></b></p>
<b>D</b>	<p>The Mustinka River flows into this big lake that is the border with South Dakota.</p> <p><b>Lake <u>Traverse</u></b></p>



### Tossup 9: Science — Chemistry

These typically occur in particles with sizes around one micrometer to one nanometer, and were first studied by Thomas Graham. They can be foams, aerosols, and gels depending on the phases of the dispersed and continuous media, and are often opaque because of the Tyndall effect. Name this type of heterogeneous mixture that appears homogeneous, which also include emulsions.

Colloid

### Bonus 9: Math — Geometry

$y = 7 + 9 \cos(4x + 3)$ . Give the following.

**A** The amplitude.

9

**B** The period.

$\pi$  over 2

**C** The vertical shift.

7

**D** The angular frequency.

4



### Tossup 10: Social Studies — Geography

<p>A 1959 treaty prevents military activity in this area, and it controls the Bouvet, Heard, and McDonald islands. Its highest point, Vinson Massif, rises to over 16,000 ft and is located in the Ellsworth Mountains. Its only active volcano, Mt. Erebus, is on Ross Island. Containing no time zones except for on Graham Land, which is near South America, it is home to many Emperor Penguins. Name this cold continent at the south pole.</p>	<p><b><u>Antarctica</u></b></p>
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### Bonus 10: Miscellaneous — Entertainment

<p>One of the most stereotypical depictions of James Bond films involves giant, Earth-orbiting laser satellites. Identify the following about them.</p>	
<p><b>A</b></p>	<p>This Moore Bond film doesn't actually have a laser satellite, but it does feature a laser battle in outer space involving Hugo Drax's troops.</p> <p><b><u>Moonraker</u></b></p>
<p><b>B</b></p>	<p>This film features an orbital mirror system that doesn't exactly shoot a laser, but does concentrate solar power into a powerful beam, which can melt a giant ice castle.</p> <p><b><u>Die Another Day</u></b></p>
<p><b>C</b></p>	<p>This last official Connery film sees stolen gems used in a laser satellite which Blofeld intends to use to destroy nuclear weapons so that he can hold nuclear supremacy.</p> <p><b><u>Diamonds Are Forever</u></b></p>
<p><b>D</b></p>	<p>This Brosnan Bond film sees a traitorous 006 try to hijack a laser satellite in order to steal money from the Bank of England and then destroy Britain's economy.</p> <p><b><u>GoldenEye</u></b></p>



### Tossup 11: Math — General

<p>If three of them define a parallelepiped, its volume can be found by taking the determinant of the matrix with one of the three in each row. That technique, called a triple product, can also be found by crossing two of them and then dotting the result with the third. Unit ones have hats, and they are typically written as bold letters and drawn as arrows. Name this type of object, examples of which include angular momentum, force, and velocity, which has both a magnitude and direction, unlike scalars.</p>	<p><u>Vector</u></p>
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### Bonus 11: Literature — Mythology

<p>Answer the following about mythological twins in Greek and Roman Mythology.</p>		
<p><b>A</b></p>	<p>One of them is mortal and one is immortal, and together they are referred to as Dioscuri. Give their Roman names.</p>	<p><u>Castor</u> and <u>Pollux</u></p>
<p><b>B</b></p>	<p>These Greek gods are the twin son and daughter of Zeus and Leto.</p>	<p><u>Apollo</u> and <u>Artemis</u></p>
<p><b>C</b></p>	<p>These twin brothers were minor Greek deities representing Sleep and Death.</p>	<p><u>Somnus</u> and <u>Thanatos</u></p>
<p><b>D</b></p>	<p>This twin brother of Heracles is actually his half-brother and is mortal.</p>	<p><u>Iphicles</u></p>



### Tossup 12: Fine Arts — Visual Art

<p>It features three arches in the background, as well as three seated women to the right. One of those women is joined by two small children, probably progeny of one of the titular men. One of the men on the left holds a spear in his left hand, while he extends his right hand forward. Two other men make the same gesture, while a man in the center holds three swords. Featuring a prototypical Roman salute by a set of triplets, identify this Neoclassical painting by Jacques-Louis David (<i>dah-VEED</i>).</p>	<p><b><u>Oath of the Horatii</u></b></p>
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### Bonus 12: Miscellaneous — Other

Name these notable deaths of 2008.		
<b>A</b>	Known as “that guy who does movie voice-overs, name this voice actor famous for starting trailers with “In a World...”	<b>Don <u>LaFontaine</u></b>
<b>B</b>	Name this NFL Hall of Famer, former Players Association head, and the reason NFLers have some initials on their jerseys this season.	<b>Gene <u>Upshaw</u></b>
<b>C</b>	Name the recording artist responsible for the theme from “Shaft”, but perhaps better known as the voice of South Park’s “Chef”	<b>Isaac <u>Hayes</u></b>
<b>D</b>	Lastly, name this director of such films as “Tootsie”, and the Oscar-winning “Out of Africa”.	<b>Sydney <u>Pollack</u></b>



### Tossup 13: Literature — Literature

<p>The work begins just as the main character is paroled from prison for murder. He runs into a childhood friend on his way home from prison, and continues to travel with him throughout the book. It also sees Connie Rivers, unable to handle the impending responsibilities of marriage and fatherhood, abandoning the pregnant Rose of Sharon. Featuring intercalary chapters about a turtle crossing a road, the action of which runs in tandem with the Joad family's trip to California, identify this rather long book written by John Steinbeck.</p>	<p>The <u>Grapes of Wrath</u></p>
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### Bonus 13: Social Studies — U.S. History

<p>Given clues, identify these treaties or deals the U.S. has been involved in.</p>		
<p><b>A</b></p>	<p>This treaty, brokered by Nicholas Trist, ended the Mexican-American War.</p>	<p>Treaty of <u>Guadalupe Hidalgo</u></p>
<p><b>B</b></p>	<p>Some lands that weren't covered by the answer to Part A were covered in this 1853 deal, which gave the U.S. parts of what are now Arizona and New Mexico.</p>	<p><u>Gadsden Purchase</u></p>
<p><b>C</b></p>	<p>This 1898 treaty that ended the Spanish-American War gave the United States Puerto Rico and the Philippines, among other things.</p>	<p>Treaty of <u>Paris</u></p>
<p><b>D</b></p>	<p>This treaty signed in Belgium on Christmas Eve, 1814, ended the War of 1812.</p>	<p>Treaty of <u>Ghent</u></p>



### Tossup 14: Math — Calculus (Computational: 30 Seconds)

Evaluate the derivative, at $x$ equals zero, of the function $x$ plus tangent of $x$ .	<u>2</u>
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### Bonus 14: Social Studies — Other

Name these American psychologists who performed important experiments.	
<b>A</b>	This behaviorist observed operant conditioning in rats in a box which came to be named after him. He also taught pigeons to play ping pong and pigs to vacuum. <b>Burrhus Frederic <u>Skinner</u></b> <i>(accept B.F. Skinner)</i>
<b>B</b>	Also a behaviorist, this man performed the Little Albert experiment, classically conditioning a child to fear a rat, which led to the child fearing all fuzzy white things. <b>John Broadus <u>Watson</u></b>
<b>C</b>	At Yale, this man tested how participants obeyed commands instructing them to turn up the voltage while an actor screamed louder and louder as the voltage increased. <b>Stanley <u>Milgram</u></b>
<b>D</b>	In his famed Stanford prison experiment, this psychologist observed how much everyday people changed when given new roles in a prison environment. <b>Philip <u>Zimbardo</u></b>



### Tossup 15: Science — Physics

<p>This phenomenon can be caused in the oceans by differences in salinity, or in the atmosphere by differences in the amount of water vapor present. The forced type is that due to movement not caused by fluids' natural buoyancy. This process occurs in the Earth's mantle, which causes plate tectonic activity; in that case, radioactive decay produces most of the heat. Name this type of flow in which heat transfers by the movement of fluid.</p>	<p><u>convection</u></p>
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### Bonus 15: Literature — Language Arts

<p>Identify the following literary devices from a description.</p>		
<p><b>A</b></p>	<p>This device represents the whole by using a small part of it. An example might be saying "All hands on deck!"</p>	<p><u>Synecdoche</u> (<i>sin-EKK-duh-key</i>)</p>
<p><b>B</b></p>	<p>This device, a type of metaphor, uses something closely related to a subject in place of it. An example might be saying "The White House passed the bill."</p>	<p><u>Metonymy</u></p>
<p><b>C</b></p>	<p>This device is an address to a person or a personified object not present.</p>	<p><u>Apostrophe</u></p>
<p><b>D</b></p>	<p>This device is the use of pseudo-palindromic word order in order to convey extra meaning. An example might be "The first shall be last and the last shall be first."</p>	<p><u>Chiasmus</u></p>



### Tossup 16: Social Studies — U.S. History

<p>It was signed near Provincetown, and it opens with a reference to King James. Among its signers were Edward Winslow and Miles Standish, and though the original copy does not exist, it was detailed in the diary of William Bradford. Name this 1620 document named after the ship that carried the Pilgrims to America.</p>	<p><b><u>Mayflower Compact</u></b></p>
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### Bonus 16: Math — Algebra

<p>Answer the following about the matrix with top row 2, 3, and bottom row 1, 4.</p>		
<b>A</b>	This is its determinant.	<b><u>5</u></b>
<b>B</b>	This is its trace.	<b><u>6</u></b>
<b>C</b>	This is its inverse.	<b><u>top row: 4/5, -3/5; bottom row: -1/5, 2/5</u></b>
<b>D</b>	This is the fully row-reduced form of the matrix.	<b><u>top row: 1, 0; bottom row: 0, 1</u></b> <i>(accept <u>identity matrix</u>)</i>



### Tossup 17: Literature — Literature

<p>It ends with all the characters in mourning over the death of Aunt Rina, even though a main character had recently died. The entirety taking place within a living room and one room off to its side, this play includes an alcoholic academic reformed largely by his relationship with Thea Elvsted. That academic, Eilert Lövborg, is a potential rival for a university professorship to George Tesman, the title character's husband. Ending with that title character playing the piano then shooting herself, identify this play written by Henrik Ibsen.</p>	<p><b><u>Hedda Gabler</u></b></p>
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### Bonus 17: Fine Arts — Visual Art

<p>Identify these facts related to Abstract Expressionism.</p>		
<p><b>A</b></p>	<p>This Abstract Expressionist, known as the Dropper, painted the Key and the She-Wolf.</p>	<p><b>Jackson <u>Pollock</u></b></p>
<p><b>B</b></p>	<p>An early expressionist was this Russian associated with the Bauhaus, who painted the Blue Rider.</p>	<p><b>Wassily <u>Kandinsky</u></b></p>
<p><b>C</b></p>	<p>This Dutch abstract expressionist did Mailbox and Excavation, as well as a series of works on women.</p>	<p><b>Willem <u>de Kooning</u></b></p>
<p><b>D</b></p>	<p>This man, born in Latvia, painted Subway Scene, as well as many works that were simply solid colors.</p>	<p><b>Mark <u>Rothko</u></b></p>



### Tossup 18: Math — Geometry (Computational: 30 Seconds)

A six-pointed star consists of equilateral triangles with sides of length 1, adjoined to each side of a regular hexagon with sides of length 1. Find the area contained by the star.	<b><u>3 root 3</u></b>
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### Bonus 18: Science — Biology

Identify these parts of the kidney.	
<b>A</b>	These two blood vessels leading from the aorta provide blood to the kidneys for filtering. <b><u>Renal artery</u></b>
<b>B</b>	This is the functional unit of the kidney. <b><u>Nephron</u></b>
<b>C</b>	This long vessel reabsorbs water and ions from urine, via active transport and a potential gradient. <b><u>Loop of Henle</u></b>
<b>D</b>	This is a tube exiting the kidneys which leads to the bladder. <b><u>Ureter</u></b> ( <i>do not accept <u>urethra</u></i> )



### Tossup 19: Social Studies — Geography

<p>Cortes thought it was the Strait of Anian, and men who searched for it include Humphrey Gilbert and Martin Frobisher. When the Vikings looked for it, they didn't go much farther than Ellesmere Island; Jacques Cartier was looking for it too far south when he tried the St. Lawrence. Name this sea route, first successfully traveled by Roald Amundsen, which provides a path from the Atlantic to the Pacific through the Arctic Circle.</p>	<p><b><u>Northwest Passage</u></b></p>
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### Bonus 19: Math — Other

<p>You have 8 songs. 4 are classical music and 4 are pop. You want to make some playlists out of them. Note that order is important in a playlist. Find the number of distinct playlists under each of these conditions:</p>	
<b>A</b>	<p>The playlist has four songs.</p> <p><b><u>1680</u></b></p>
<b>B</b>	<p>The playlist has five songs.</p> <p><b><u>6720</u></b></p>
<b>C</b>	<p>The playlist has two classical songs and two pop songs.</p> <p><b><u>864</u></b></p>
<b>D</b>	<p>The playlist has only pop songs, but anywhere from 1 to 4 of them.</p> <p><b><u>64</u></b></p>



### Tossup 20: Fine Arts — Music

<p>This work opens with a galant ball where a Prince must choose a wife. He eventually returns, where a case of mistaken identity leads him to make a false declaration of love. Odile has been made into a doppelganger of Prince Siegfried's true love by the evil von Rothbart. Featuring Odette, a princess afflicted by an evil sorcerer's curse, identify this ballet by Tchaikovsky.</p>	<p><b><u>Swan Lake</u></b></p>
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### Bonus 20: Social Studies — U.S. History

<p>Identify these facts related to the Supreme Court case <i>Miranda v. Arizona</i>.</p>		
<b>A</b>	<p>This Chief Justice, who led the commission that investigated President Kennedy's assassination, delivered the ruling that police used excessive force.</p>	<p><b><u>Earl Warren</u></b></p>
<b>B</b>	<p>It was determined that Miranda's right to an attorney had been violated; that right is protected by this constitutional amendment.</p>	<p><b><u>6th</u></b></p>
<b>C</b>	<p>In 1964, this man was the plaintiff in a case against Illinois, in which it was determined he had not been allowed proper access to an attorney.</p>	<p><b><u>Danny Escobedo</u></b></p>
<b>D</b>	<p>This 1963 case which began in Florida forced the state to grant legal counsel to defendants who could not afford one.</p>	<p><b><u>Gideon v. Wainwright</u></b></p>



### Tossup A: Science — Biology

It takes an acetyl-coenzyme-A molecule and produces NADH and carbon dioxide as well as ATP. It can be named after either the molecule that starts and ends the process, or by a biologist who studied it. Producing roughly 30 ATP for each glucose molecule, name this energy-producing process that takes place in the mitochondria.

**Krebs cycle** (accept citric acid cycle)

### Bonus A: Fine Arts — Music

Identify the following musical instruments from a description.

<b>A</b>	This woodwind is played by both classical and some jazz instrumentalists, including Benny Goodman.	<b><u>Clarinet</u></b>
<b>B</b>	This instrument is the modern equivalent of the sackbut, and is the only brass instrument that can easily produce a glissando.	<b><u>Trombone</u></b>
<b>C</b>	This misnamed instrument would be more appropriately called a "tenor oboe," since it is pitched a perfect fifth lower than the oboe.	<b><u>English horn</u></b> (accept <u>Cor Anglais</u> )
<b>D</b>	This instrument's famous practitioners have included Paula Robison and James Galway.	<b><u>Flute</u></b>



### Tossup B: Literature — Mythology

<p>Two answers are required. Each morning, they are sent out to learn what they can, and they subsequently return to relay that information back to their owner; very little in all of Midgard escapes their notice. Their names mean Thought and Memory, borrowing from their reputation as members of an intelligent species, the same species Poe would later choose for a famous poem. They are perhaps best known recently as an oath used by Ron Burgandy in "Anchorman". Name these two birds, heralds and information gatherers, collectively known as "Odin's Ravens".</p>	<p><b><u>Hugin and Munin</u></b></p>
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### Bonus B: Science — Physics

<p>Name the following terms associated with a particular body of work due to Albert Einstein:</p>		
<p><b>A</b></p>	<p>Einstein laid out this area of study in the 1905 paper "On the Electrodynamics of Moving Bodies". It states that the speed of light is the same in all frames of reference and that the laws of mechanics are the same in any nonaccelerating frame of reference.</p>	<p><b><u>special relativity</u></b> <i>(prompt on relativity)</i></p>
<p><b>B</b></p>	<p>Eleven years later, Einstein published a further paper that expanded that theory to account for gravity. That paper formed this new theory.</p>	<p><b><u>general relativity</u></b> <i>(prompt on relativity)</i></p>
<p><b>C</b></p>	<p>Many of the equations for those theories involve multiplication by the quantity <math>c</math> over the square root of one minus <math>v</math> squared over <math>c</math> squared, which is often symbolized gamma and called this.</p>	<p><b><u>Lorentz factor</u></b></p>
<p><b>D</b></p>	<p>Those theories were first verified in that they correctly predicted the perihelion precession of this planet.</p>	<p><b><u>Mercury</u></b></p>



### Tossup C: Fine Arts — Visual Art

<p>It was discovered in two pieces by a peasant named Yorgos Kentrotas in 1820. According to the customs of the era, it would have been adorned with jewelery and positioned in a niche inside of a gymnasium. It has a filled hole on its right side that probably contained a metal tenon that would have supported a separately carved arm. Located in the Louvre, identify this statue of a bare-chested goddess that lacks arms.</p>	<p><b><u>Venus de Milo</u></b> (accept <u>Aphrodite of Milos</u>)</p>
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### Bonus C: Literature — Literature

<p>Identify the following regarding masculine activities from works by Ernest Hemingway.</p>		
<b>A</b>	<p>Death in the Afternoon and The Dangerous Summer chronicle Hemingway's involvement with this activity.</p>	<p><b><u>bullfighting</u></b></p>
<b>B</b>	<p>The opening line of this work informs us that Robert Cohn is a former champion in the sport of boxing.</p>	<p><b><u>The Sun Also Rises</u></b></p>
<b>C</b>	<p>In the short story The Old Man and the Sea, one of Santiago's heroes is this legendary Yankee outfielder.</p>	<p><b><u>Joe DiMaggio</u></b></p>
<b>D</b>	<p>In the short story My Old Man, Joe's father dies while participating in this sport, and soon after Gilford is shot.</p>	<p><b><u>horse racing</u></b></p>