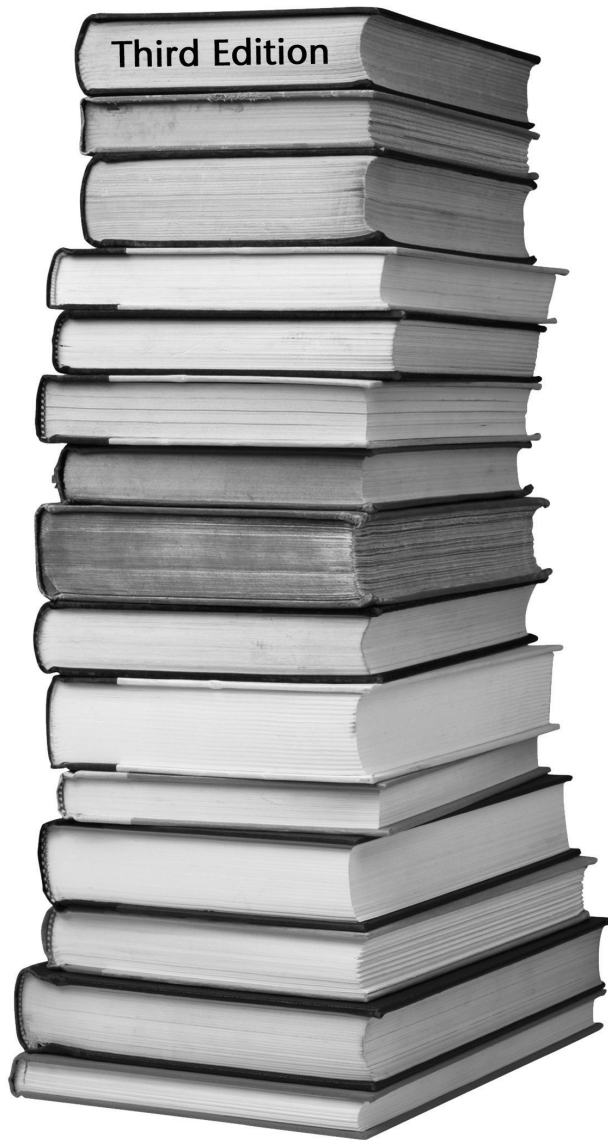


Critical Thinking

Readings in Nonfiction

High School



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To the Teacher

It has become increasingly obvious to educators, not only in this country but also in other nations, that we are not effectively helping students identify, develop, and utilize the wide range of thinking and reasoning skills of which they are capable. This is, today, a truly worldwide concern. Edward de Bono, Director of the Cognitive Research Trust in Cambridge, England, has noted that Venezuela, Canada, the United Kingdom, Australia, and New Zealand have all launched large programs stressing the teaching of thinking skills. There are also pilot projects in Bulgaria, Malaysia, New Guinea, India, and Israel.

As the current wave of social change sweeping Europe is extended to other regions of the globe, we may witness increasing calls for the teaching of thinking skills. Democracies demand much higher levels of participatory problem solving on the part of their citizens than authoritarian regimes. True democracies are rooted in the belief that a large proportion of the people who reside within their boundaries are capable of assisting directly in the solution of national and regional problems. Voters must make decisions on hundreds of referendums relating to social and economic issues during every election. This is a reflection of Thomas Jefferson's belief that a people cannot be both ignorant and free.

Three rather interesting findings from research directly impact every program that purports to teach critical-thinking and reasoning skills:

- A. First, it is important to recognize that 30 percent of our adolescents and adults never reach Jean Piaget's formalistic stage of reasoning. This means, of course, that this segment of our population has problems manipulating ideas, thinking abstractly, and seeing subtle relationships. In addition, these people have great difficulty planning for future events and projecting their thoughts beyond the present. Many of the concepts and problem-solving strategies in academic programs lie well beyond their levels of comprehension.
- B. Second, it is useful to note that studies conducted by Robert Sternberg of Yale University clearly demonstrate that people

from widely divergent socioeconomic levels hold very different views regarding the nature of intelligence. Socially and economically advantaged parents typically emphasize problem-solving and thinking and reasoning skills with their children, while less-advantaged parents tend to view intelligence as rote memorization. This means, of course, that their children will be inclined to value similar skills and bring these expectations to school with them.

- C. Third, it is important to recognize that there is no consensus regarding which thinking skills are paramount. There are almost as many lists of skills as there are researchers in the field. Some investigators stress broad problem-solving strategies; others emphasize fairly narrow, closely defined competencies. The test developers who designed the SAT examinations obviously focused on academic skills; other researchers have chosen to emphasize life skills (competencies related to the solving of everyday problems).

The authors of this book have elected to focus on skills and competencies chosen by English teachers currently teaching in Midwest high schools. A list of 50 thinking skills was developed from a wide variety of sources (nationwide tests of critical thinking, recognized thinking-skills projects and programs, and research studies that delineate key pupil competencies). The list of 50 skills was then distributed to English teachers throughout Indiana. Each teacher was asked to identify those skills she or he thought were most important to student success in English.

The teachers involved in this survey, as a group, expressed a preference for 9 of the 50 skills. It is interesting to note that the 9 skills they chose included literal-level, inferential-level, and critical-thinking-level competencies. The selected skills were as follows:

- A. Skill in recognizing and remembering key ideas
- B. Proficiency in identifying the main idea of a paragraph or story

- C. Competence in recognizing similarities among people, ideas, objects, and events
- D. Skill in identifying sequences of events within a story
- E. Competence in citing evidence to support a position or point of view
- F. Proficiency in recognizing differences among statements of fact, probability, and opinion
- G. Demonstrated ability to judge the adequacy of information for specific purposes
- H. Skill in selecting criteria to be used in making judgments
- I. Proficiency in drawing valid conclusions from data studied

The last skill, drawing conclusions, was an overwhelming favorite among the respondents, and it is, therefore, given greater attention in this book than other skills.

To encourage active application of critical-thinking skills, open-ended and interactive

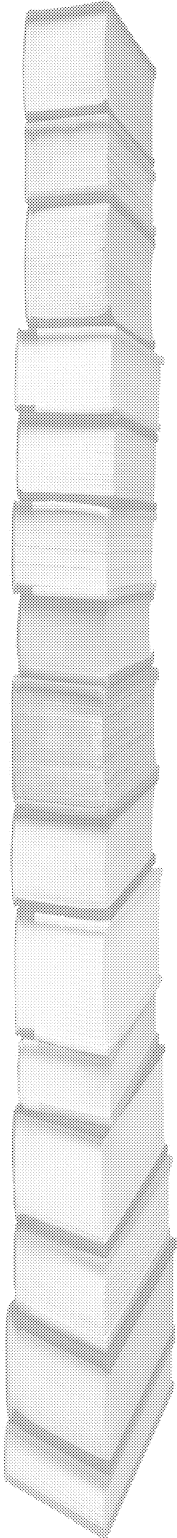
Follow-up Activities have been added to each section of the book. These activities appear in this Teacher's Guide after the Answer Key for each section.

Any one of these skills could be offered in such a sophisticated setting that it would challenge the best and brightest of our students. Recognizing the key ideas in transcendentalism, for example, might be well beyond the grasp of the typical high school junior.

This book has been organized so that it offers both challenges and successes. The initial exercises are so clearly presented and carefully paced that every student should be able to master them easily. Later exercises are much more difficult. They require higher levels of reading comprehension and better organizational skills on the part of the student. In addition, challenge questions are offered with every set of exercises. These require students to synthesize larger issues and express their thoughts in somewhat broader contexts.

The authors would like to thank Kathy Chin for her work on the question formats in this book.

Matching Wits with Squirrels



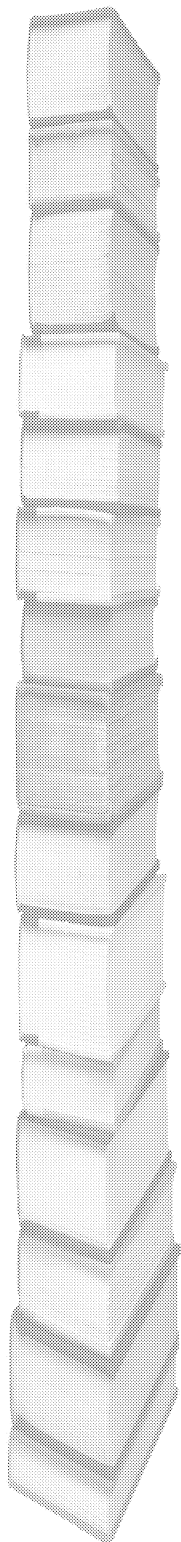
1. In all innocence, Alfred Greeley bought a bird feeder and hung it in a tree in his backyard. He was congratulating himself for his kindheartedness and industry in filling the feeder with seeds twice a day.
2. Then the euphoria vanished. Greeley's wife suggested that the birds couldn't possibly be using so much seed. He surreptitiously stood watch next morning and noted one squirrel busily feeding while three or four companions lined up for their turn.
3. Greeley was too smart a man to be out-manuevered by squirrels. He secured a long pole, placed it away from any tree, and put the feeder on top. Not to be outdone, the squirrels easily shinnied up and down the pole. So Greeley greased the pole. The squirrels could still climb it and then slithered down with great glee.
4. The squirrels could be trapped and banished to a park, but would they return? How long would it take to catch all of them?
5. A neighbor suggested a metal dome partway up the pole. It actually worked—for a couple of days. Then the squirrel leader grasped the pole and shook until the bird seed was scattered on the ground, enabling several furry creatures to eat at once.
6. While Greeley did not contemplate shooting the squirrels, as some people had done, he did wish there were some way of controlling them. The power companies have an even bigger stake in doing so, as squirrels have found the metal in electric cables useful for grinding down their incisors, thereby often causing power outages.
7. One friend did have a contraption that worked, and Greeley decided to emulate his success. The principal ingredient in this plan was an electrically charged wire. A spring mechanism allowed the weight of a few birds but sagged under the weight of a squirrel and made contact with the wire. The electric charge sent the squirrel tumbling every time. Busily, Greeley assembled the necessary parts and got the mechanism set up for use.

8. Greeley consoled himself with the thought that there were plenty of nuts buried in the ground. Squirrels were known to dig through a foot of snow directly to the nut below. Surely they were already taken care of.

9. Greeley did not connect the electricity and soon removed the gadget. He fed the squirrels, and the birds got what the squirrels scattered around. But the situation reversed when two blue jays and a somewhat ferocious-looking woodpecker appeared. The squirrels turned out to be cowards, and the three newcomers drove the squirrels away. Greeley has a new problem: How can he protect the squirrels?

Write the number of each paragraph that is not essential to the sequence of Greeley's actions. After the paragraph number explain why that paragraph is not essential.

Country Music Sensation



When Randy Travis confidently strides through the stage door at the Grand Ole Opry, no one even notices. After all, the Grand Ole Opry has many stars, and the fact that Travis earned \$12 million just in record sales in one year is taken for granted. Many are not even aware that his Nashville offices contain 46 awards, including two Grammys.

"I haven't done anything unusual," Travis maintains. "Country music is about the things people go through in everyday life, falling in or out of love, or setbacks in business, or whatever."

In 1977, Lib Hatcher's club, Country City U.S.A., held weekly talent contests, and 17-year-old Randy Traywick appeared for one of them. He won the talent contest, and Hatcher offered him a job.

In 1979, Hatcher scraped up \$10,000 to record two Randy Traywick singles. They went nowhere.

The following year, Hatcher took him to Nashville. Randy Traywick got a job cleaning offices for \$30 a week. Hatcher found a place managing the Nashville Palace, a tourist attraction. Next Randy Ray, as he began to call himself, started frying catfish and washing dishes there, then singing for the tourists. Randy Ray cut records and the pair tried every major label. He was turned down because no company wanted country music.

During the 1970s, most groups turned to "crossover" (a mixing of rock, pop, and blues). The trend was toward pop audiences. Randy Ray was

an outcast, since he stuck to country music.

Finally, miraculously, in the middle 1980s Martha Sharp of Warner Brothers heard Randy Ray and decided to take a risk and sign him. Even if record companies felt that pop and rock were the "hip" concerns of young audiences, Warner Brothers consented to the contract. Sharp renamed her find Randy Travis. Warner released *Storms of Life*, expecting it to sell 20,000 records. Instead it became the first debut album of a country artist to "go platinum"—it sold over a million copies within 12 months. *Always and Forever*, the second album, stayed at number one on country charts for 43 weeks. Travis's third album also went platinum.

In spite of fame and fortune and a sold-out concert at the Houston Astrodome, Travis continues to travel around the country by caravan. This includes a crew bus, a band bus, a video-team bus, and two 18-wheelers with scenery and equipment.

Looking back to the time when he sang with his brothers, Travis recalls he dropped out of school in the ninth grade, drove fast cars, and took to drinking and drugs, which led to scrapes with the law. He wanted to be wild then.

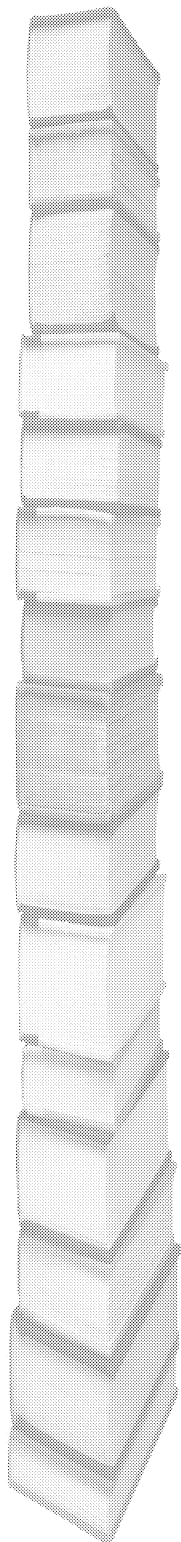
Now, Travis works out at gyms along the way and is almost a teetotaler. He sticks to the main rule of country: Be true to the fans, for they will share the bad times with the good. The pop audience is fickle and craves novelty; country fans demand only loyalty.

Answer the following questions.

1. Which paragraph provides the first step to Randy Travis's success? Paragraph _____
2. Paragraph _____ (give number) mentions a setback to the sequence of Travis's progress by
3. What clue in paragraph 9 tells you that the sequence of this story has again been broken?
4. Where in the sequence do paragraphs 1 and 2 belong?

Why are they given first in this story?

Making out Schedules



<i>Schedule</i>	<i>Periods Class Is Offered</i>
A English I	2, 6
B English II	1, 4
C English III	3, 5
D English IV	2, 3
E Social Studies I	4, 5
F Social Studies II	1, 6
G Social Studies III	1, 4
H Social Studies IV	3, 6
I Algebra	2, 4
J Geometry	1, 5
K Trigonometry	2, 3
L French I	1, 5
M French II	4, 6
N Latin I	3, 5
O Latin II	2, 4
P General Science	1, 3
Q Physics	2, 4
R Chemistry	3, 6
S Physical Education	(Every
T Music	Period)

In Holmdale High School, students were allowed to make out the schedules they preferred. Then if classes were unbalanced, adjustments would have to be made. All students had to have five main subjects plus two years each of physical education and music.

You are asked to make out possible schedules for each student listed. Write the letter of the subject after the number of the school period.

A. Jorge must take English I and Social Studies I. He would like to add French I, Algebra, General Science, and Physical Education.

1. _____ 2. _____ 3. _____
4. _____ 5. _____ 6. _____

B. Elena prefers to have English III, Social Studies III, Latin II, Chemistry, Trigonometry, and Music.

1. _____ 2. _____ 3. _____
4. _____ 5. _____ 6. _____

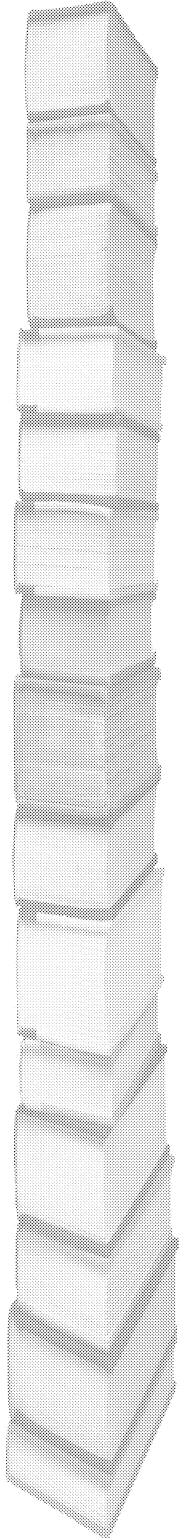
C. Zena has chosen English IV, Social Studies IV, French II, Physics, Geometry, and Physical Education.

1. _____ 2. _____ 3. _____
4. _____ 5. _____ 6. _____

D. Rory has specified English II, Social Studies II, Music, General Science, Algebra, and French I.

1. _____ 2. _____ 3. _____
4. _____ 5. _____ 6. _____

Just Passing Through



People traveled by foot long before they learned to tame and ride animals. Eventually, they also learned to drag poles and sleds behind animals to carry their belongings. When traveling through woods or swampy areas, however, walking often seemed the easiest and most efficient way to reach distant places.

Even in modern times, men and women set hiking records. For several years, David Kwan, 22 at the time, held the world's record. He walked from Singapore to London, England, in 81 weeks. Altogether, he covered 18,500 miles. He traveled through 14 countries after leaving Singapore on May 4, 1957. Kwan averaged 32 miles a day.

Dr. Barbara Moore, who was born in Russia, walked across the United States in 1960. She covered 3,207 miles in 86 days. This was a remarkable 37 miles per day.

John Lees also set out to walk across the United States in 1972. He flew

from England to Los Angeles. He then walked from Los Angeles to New York. He covered 2,876 miles in 53 days. Although his trip was the shortest of the three, he covered an incredible 54 miles a day!

Steve Newman walked entirely around the world from 1983 to 1987. His trip was longest both in distance and in time. Newman covered approximately 14 miles per day during the four years he was gone from his home in Bethel, Ohio. Newman also had more adventures than the other hikers. He had to deal with charging boars (wild pigs), runaway horses, and African fire ants. Bandits attacked him in Thailand and pickpockets stole his money in North Africa.

Despite his many misadventures, Newman talked mostly about the kind things people did for him. Hundreds of strangers cheered him on, and many gave him food as well as a place to stay.

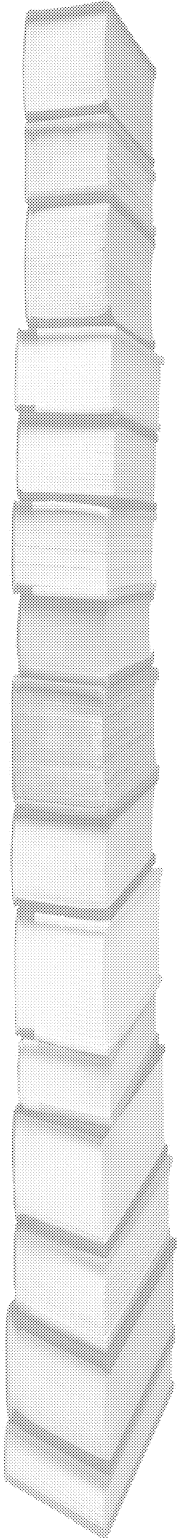
If you were selecting travel companions for a walking trip across Africa, what criteria would you use? Select the four criteria you think are most important. Put a check mark beside each of your choices.

- 1. People who have been to Africa previously
- 2. Individuals who enjoy wild animals
- 3. People who can read maps
- 4. Companions who are physically strong
- 5. Participants who are brave
- 6. People who enjoy African music
- 7. Individuals who can cook food
- 8. People who have a strong desire to go
- 9. Companions who are willing to help with the trip

Challenge Question

Why is it usually worthwhile to establish criteria before making an important decision?
Write your answer below.

Buried Treasure



A little over a 100 years ago, Betty Fox, the wife of a struggling blacksmith in Shropshire, England, had a strange dream. In her dream, Betty Fox saw men in strange clothing burying something near a country road. The men were dressed like ancient warriors. They had bronze helmets, round battle shields, and spears.

The following night, Betty Fox's dream occurred again. This time she recognized the road as one not far from her home.

Betty Fox's family thought her dream was ridiculous, and they made fun of her. When she had the dream a third time, she decided to do something about it. She found a shovel and walked along the road until she recognized the spot where the ancient soldiers had buried the mysterious material. She dug under a large bush

and soon found several gold coins. Fox dug deeper and came upon a pot filled with gold and silver coins.

Fox's family was worried when she showed them the coins, but a local coin collector told them that the coins legally belonged to the person who found them. The coins were left by the Romans who had conquered England hundreds of years earlier.

Archeologists (scientists who study ancient ruins) were very interested in the coins Betty Fox had found. They bought the coins for a large sum of money and began digging deeper in the area. Their excavations led to the discovery of the ancient city of Uriconium, which had been hidden for more than 1,500 years. People can visit the Uriconium ruins today near the home where Betty Fox lived.

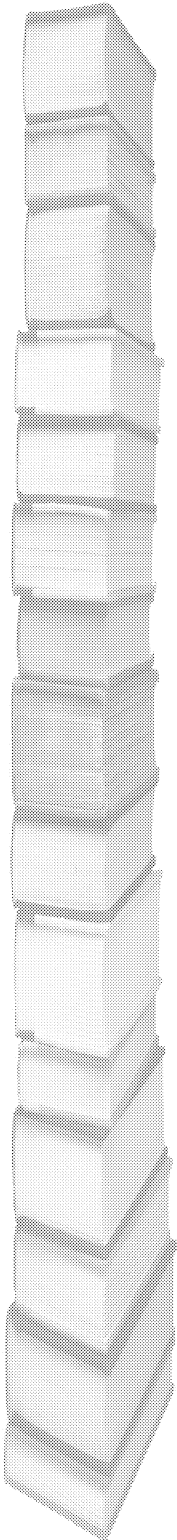
If you uncovered what you thought was an ancient treasure, what criteria would you use in deciding whether the treasure was real? Put a check mark beside the four best criteria.

- 1. The coins have "B.C." on them.
- 2. The coins look old.
- 3. The coins have a picture of an ancient emperor on them.
- 4. The coins are silver.
- 5. The coins say "Made in China."
- 6. The coins are stored in a pot.
- 7. The coins are made of a metal used in ancient times.
- 8. The coins were found in ancient ruins.
- 9. Your sister insists that they are ancient coins.
- 10. The coins were found near a coin collector's home.

Challenge Question

Why do you believe ancient coins are more valuable than modern coins? Write your answer below.

The Song Man



When Irving Berlin died on September 22, 1989, at age 101, a small group of people gathered outside his home on Beekman Place, New York City, and sang "God Bless America." It seemed a proper tribute to the man who spent his life composing such hits as "White Christmas" and "Alexander's Ragtime Band." Of the over 1,000 songs for which Berlin wrote music and lyrics, many were classics. "White Christmas" won an Oscar in 1942.

Irving Berlin (his real name was Izzy Baline) was born in Russia and emigrated to New York City to live on the Lower East Side. His father died when he was 13, and there was no money to support the family. At 13, he began singing popular songs on the sidewalks of the Lower East Side; this continued for about five years. He was always concerned about money because if he did well, he ate. If he didn't, he starved.

One of the stories (myths) about Berlin's life was that he played only the black keys on the piano. It was true that he could not read music, but he did play with all 10 fingers. It was just that he could only play in the key of f-sharp, which uses only two white keys. If he needed to work in a different key, he had a lever on the piano that he moved, thus solving that problem.

There was a persistent rumor that bothered Berlin until his dying day. It was that his songs were written by

black musicians in Harlem who worked for him anonymously. This started with his first hit, "Alexander's Ragtime Band," in 1911. Many people believed it was impossible for one person to write so many songs in as many styles as he did, or for an untrained musician to write so many works of genius. Berlin worried that some tune he heard might appear in his music, but no evidence of this sort has ever been found.

After he turned 80, Irving Berlin quit seeing people. He was like Howard Hughes, a paranoid, reclusive genius. By that time, he was worth tens of millions of dollars. He spent his time talking on the phone to friends such as composer Harold Arlen, music historian Edward Jublonski, and Morton Gould, the president of the American Society of Composers, Authors, and Publishers (ASCAP). He would check on his royalties just for something to do.

During the last six years, a group of fans gathered outside Berlin's home on his birthday and on Christmas to serenade him. On Christmas 1983, as they were singing "White Christmas," the maid invited everyone in for cocoa. Berlin was in his pajamas in the kitchen. He hadn't made a public appearance since his 80th birthday in 1968. He said it was the loveliest Christmas present ever, and gave each of the men a hug and all the women a kiss.

HOW DOES IRVING BERLIN RATE? You overhear an argument between two people. One claims that Irving Berlin is America's greatest composer. The other disagrees. Not being sure how you feel about the issue, you decide to develop a list of criteria to help you make the judgment. Part of the list follows. For each criterion listed, check either "yes" or "no" to indicate whether you think that the criterion is an important one to consider in making this judgment. If your answer is "yes," then decide *on the basis of that criterion* if you would *agree* or *disagree* that Irving Berlin is the greatest, and check the appropriate box.

	Important?		Is he the greatest?	
	Yes	No	Agree	Disagree
1. personal musicianship (how well he himself played)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. productivity (how many compositions he produced)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. commercial success (how much money his music made)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. popularity of his music (how much it is still played today)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. versatility (how many different kinds of music he produced)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. critical acclaim (how music critics evaluated his work)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. cultural impact (how important his music was to people's lives)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Challenge Questions

1. Name one other criterion that might be used to judge Irving Berlin as a composer.
2. Think of someone who is currently producing popular or rock music. What is one criterion on which that person might be judged that would NOT be used in judging Irving Berlin?