

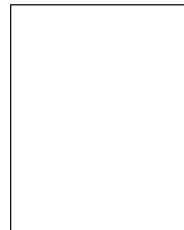
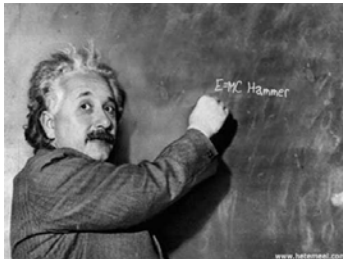
# Intelligence



Alfred Binet

Howard Gardner

Do you know that the human head weighs 8 pounds?



Mother Simpson: [sings] How many roads must a man walk down / Before you can call him a man...

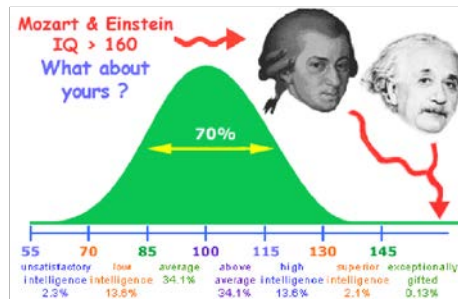
Homer: Seven.

Lisa: No, dad, it's a rhetorical question.

Homer: OK, eight.

Lisa: Dad, do you even know what "rhetorical" means?

Homer: Do \*I\* know what "rhetorical" means?



# Terms for Flashcards Unit 9:

## *Intelligence*

Alfred Binet	Intelligence Quotient	Intellectual disability
Lewis Terman	Emotional Intelligence	PKU
Charles Spearman	Stanford-Binet Scale	Downs Syndrome
Howard Gardner	General intelligence	Fetal Alcohol Syndrome
Robert Sternberg	Multiple Intelligence Theory	I.E.P.
L.L. Thurstone	Triarchic Theory of Intelligence	Inclusion Education
William Stern	Normal Distribution	Self-Contained Education
David Weschler	Aptitude Test	Flynn Effect
Reliability	Achievement Test	WAIS/WISC
Validity	Standardization	Binet-Simon Scale
Gifted	Intelligence	Savant Syndrome
Grit	Content validity	Predictive validity
Crystallized intelligence	Fluid intelligence	Stereotype threat

Pick 15 terms from the above list that you are least familiar/comfortable with.

1. **Define** the term IN YOUR OWN WORDS. Try and keep the definition short, meaningful, and something that you can remember.
2. **Draw** a picture that demonstrates the term OR describe a personal example.



## Major Theories of Intelligence Jigsaw

Directions: Read and fill in the chart for your theory of intelligence. It will be your job to teach the others in your group about your theory.

Definition of intelligence:

Questions about intelligence (see chart):

1. Is it a single general ability or it is better described as a cluster or group of abilities?
2. According to the creator of the intelligence, should intelligence be restricted to what you can measure on an IQ test or be open to broader interpretation?

Theory and Author	Description of theory	Evidence/proof/examples	Q. 1 General or group?	Q. 2 IQ test or broader interpretation?
General Intelligence  By:				
Triarchic Theory  By:				
Multiple Intelligences  By:				
Emotional Intelligences:  By:				

What theory do you MOST agree with? Why?

## MULTIPLE INTELLIGENCES

Howard Gardner views intelligence as multiple abilities that come in packages. Gardner finds evidence for this view in studies of people with diminished or exceptional abilities. Brain damage, for example, may destroy one ability but leave others intact. And consider people with **savant syndrome**, who often score low on intelligence tests but have an island of brilliance. Some have virtually no language ability, yet are able to compute numbers quickly and accurately as an electronic calculator, or identify almost instantly the day of the week that corresponds to any given date in history, or render incredible works of art or musical performances. About four in five people with savant syndrome are males, and many also have *autism*, a developmental disorder.

Using such evidence, Gardner argues that we do not have *an* intelligence, but rather *multiple, relatively independent intelligences*. He identifies a total of eight, including the verbal and mathematical aptitudes assessed by standard tests. Thus, the computer programmer, the poet, the street-smart adolescent who becomes a crafty executive, and the point guard on the basketball team exhibit different kinds of intelligence. Gardner notes,

If a person is strong (or weak) in telling stories, solving mathematical proofs, navigating around unfamiliar terrain, learning an unfamiliar song, mastering a new game that entails dexterity, understanding others, or understanding himself, one simply does not know whether comparable strengths (or weaknesses) will be found in other areas.

### GARDNER'S EIGHT INTELLIGENCES

<b>Aptitude</b>	<b>Example</b>
1. Linguistic	T.S. Eliot, poet
2. Logical-mathematical	Albert Einstein, scientist
3. Musical	Igor Stravinsky, composer
4. Spatial	Pablo Picasso, artist
5. Bodily-kinesthetic	Martha Graham, dancer
6. Intrapersonal (self)	Sigmund Freud, psychiatrist
7. Interpersonal (other people)	Mahatma Gandhi, leader
8. Naturalist	Charles Darwin, naturalist

## GENERAL INTELLIGENCE

Some psychologists believe that a common factor, or general mental capacity, is at the core of different mental abilities. This approach originated with British psychologist **Charles Spearman**. Although Spearman agreed that an individual's scores could vary on tests of different mental abilities, he found that the scores on different test tended to be similar. That is, people who did well or poorly on a test of one mental ability, such as verbal ability, tended also to do well or poorly on the other tests.

Spearman recognized that particular individuals might excel in specific areas. However, Spearman believed that a factor he called **general intelligence**, or the *g* factor. Thus, general mental ability could accurately be expressed by a single number, such as the IQ score. Lewis Terman's approach to measuring and defining intelligence as a single, overall IQ score was in the tradition of Charles Spearman. For example, when Tom took the SAT as a high school junior, he scored in the top 3 percent in math and received a perfect score on the writing section. In terms of Spearman's model, Tom would undoubtedly score very highly on any test that measured *g* factor or general intelligence.

## TRIARCHIC THEORY

Robert Sternberg sees value in many of these ideas. He agrees that there is more to success than traditional intelligence. And he agrees with Gardner's idea of multiple intelligences. But Sternberg's *triarchic theory* distinguishes three, not eight, intelligences:

- **Analytical (academic problem-solving) intelligence** – assessed by intelligence tests, which present well-defined problems having a single right answer. Such tests predict school grades reasonably well but predict vocational success more modestly.
- **Creative intelligence** – demonstrated in reacting adaptively to novel situations and generating novel ideas.

- **Practical Intelligence** – required for everyday tasks, which may be ill-defined, with multiple solutions. Managerial success, for example, depends less on academic problem-solving skills than on a shrewd ability to manage oneself, one’s tasks, and other people. Sternberg and Richard Wagner’s test of practical managerial intelligence measures skill at writing effective memos, motivating people, delegating tasks and responsibilities, reading people, and promoting one’s own career. Business executives who score high on this test tend to earn higher salaries and receive better performance ratings than do those who score low.

Although Sternberg and Gardner differ on specific points, they agree that multiple abilities can contribute to life success. (Neither candidate in the 2000 U.S. presidential election had scored exceptionally high on college entrance aptitude tests, notes Steinberg, yet both, after college, have been successful.) They also agree that the differing varieties of giftedness add spice to life and challenges for education. Under Gardner’s or Sternberg’s influence, many teachers have been trained to appreciate the varieties of ability and to apply multiple intelligence theory in their classrooms. However we define *intelligence*, one thing is clear: Academic intelligence does not always equal creativity.

## **EMOTIONAL INTELLIGENCE**

Also distinct from academic intelligence is what Nancy Cantor and John Kihlstrom first called *social intelligence* – the know-how involved in comprehending social situations and managing oneself successfully. More recently, researchers have focused on a critical part of social intelligence, **emotional intelligence**. John Mayer, Peter Salovey, and David Caruso have developed an emotional intelligence test to assess both overall emotional intelligence and its four components, the ability to

- *perceive* emotions (to recognize them in faces, music, and stories).
- *understand* emotions (to predict them and how they change and blend).
- *manage* emotions (to know how to express them in varied situations).
- *use* emotions to enable adaptive or creative thinking.

Emotionally intelligent people are self-aware. In both the United States and Germany, those scoring high on managing emotions enjoy higher-quality interactions with friends of both sexes. They avoid being hijacked by overwhelming depression, anxiety, or anger. They can read others’ emotions and know what to say to soothe a grieving friend, encourage a colleague, and manage a conflict. These findings may help explain why those scoring high in emotional intelligence across 69 studies in many countries also exhibit modestly better job performance. They can delay gratification in pursuit of long-range rewards, rather than being overtaken by immediate impulses. Simply said, they are emotionally smart, and thus they often succeed in career, marriage, and parenting situations where academically smarter (but emotionally less intelligent) people fail.

Brain damage reports have provided extreme examples of the results of diminished emotional intelligence even though general intelligence is intact. University of Iowa neuroscientist Antonio Damasio tells of Elliot, who had a brain tumor removed: “I never saw a tinge of emotion in my many hours of conversation with him, no sadness, no impatience, no frustration.” Shown disturbing pictures of injured people, destroyed communities, and natural disasters, Elliot shows – and realizes he feels – no emotion. Like Data, the human-appearing android of *Star Trek: The Next Generation*, he knows but he cannot feel. Unable to intuitively adjust his behavior in response to others’ feelings, Elliot lost his job. He went bankrupt. His marriage collapsed. He remarried and divorced again. At last report, he was dependent on custodial care from a sibling and a disability check.”

Some scholars, however, are concerned that emotional intelligence stretches the concept of intelligence too far. Multiple-intelligence man Howard Gardner suggests that it is wise to stretch the concept beyond our processing of words, numbers, and logic, and into the realms of space, music, and information about ourselves and others. But let us also, he says, respect emotional sensitivity, creativity, and motivation as important but different. Stretch a word to include everything we prize and it will lose its meaning.



## Intelligence Theorists

Name: \_\_\_\_\_

These lonely men have been focusing all their attention to their careers and have given no time to their personal lives. They are ready for love assistance aka...MATCH.COM! Since you know them best, they want you to help them create a profile that includes their philosophies, achievements and legendary contributions to the field of intelligence. Of course you will need to include the type of mate they desire to meet and ideal first date.



Lewis Terman (   -   )

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Alfred Binet(   -   )

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David Wechsler (   -   )

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Howard Gardner (   -   )

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Charles Spearman (   -   )

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Robert Sternberg(   -   )

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## Multiple Intelligence Inventory



- \_\_\_1. Enjoy reading books
- \_\_\_2. Have curiosity about how things work
- \_\_\_3. Have a sense of independence or strong self will
- \_\_\_4. Think in images and pictures
- \_\_\_5. Play a musical instrument or sing in a choir or other group
- \_\_\_6. Learn best by moving around, touching, or acting things out
- \_\_\_7. Enjoy being around people
- \_\_\_8. Like recreational activities such as hiking, fishing, rock climbing, cross – country skiing, camping, sailing, scuba diving, etc.
- \_\_\_9. Enjoy writing stories
- \_\_\_10. Explore patterns, categories, and relationships
- \_\_\_11. Have a good idea what my strengths and weaknesses are
- \_\_\_12. Like to draw, paint, sculpt, and participate in art activities
- \_\_\_13. Remember the melodies of songs
- \_\_\_14. Process knowledge through bodily sensations
- \_\_\_15. Have 2 or more close friends
- \_\_\_16. Share observations with others (such as showing something like a blooming flower or small insect)
- \_\_\_17. Tell tall tales, jokes, and stories
- \_\_\_18. Compute arithmetic problems quickly
- \_\_\_19. Like to be alone to pursue some personal interest, hobby or project
- \_\_\_20. Report clear, visual images when thinking about something
- \_\_\_21. Can tell when a musical note is off – key
- \_\_\_22. Move, twitch, tap or fidget while sitting
- \_\_\_23. Enjoy socializing at school and outside of school
- \_\_\_24. Nurture living things (plants, gardens, indoor plants, etc. and animals: feeding stations, pets, etc.)
- \_\_\_25. Have a good memory for places, dates, or trivia
- \_\_\_26. Enjoy mathematics
- \_\_\_27. March to the beat of a different drummer in style of dress, behavior, or general attitude
- \_\_\_28. Can easily read maps, charts and diagrams
- \_\_\_29. Sensitive to a variety of sounds in the environment
- \_\_\_30. Engage in physical activities or sports
- \_\_\_31. Like to organized groups and can communicate to the group what needs to be done
- \_\_\_32. Collect articles, posters, pictures, figurines, stuffed animals related to wildlife or nature
- \_\_\_33. Spell words accurately and easily
- \_\_\_34. Enjoy using computers and playing computer games
- \_\_\_35. self – motivated to do well on independent study projects
- \_\_\_36. Draw accurate representations of people or things
- \_\_\_37. Prefer to have music playing while studying or working
- \_\_\_38. Perform fine and gross motor skills effectively
- \_\_\_39. learn best while relating to and cooperating with others
- \_\_\_40. Read books and watch programs about animals and ecosystems
- \_\_\_41. Have a well – developed vocabulary and use language fluently
- \_\_\_42. Able to group or organize information and then analyze, interpret or make predictions

- \_\_\_ 43. Have a good sense of self – direction
- \_\_\_ 44. Like to view movies, slides or photographs
- \_\_\_ 45. Collect recorded music
- \_\_\_ 46. Like to touch or be touched when talking to people
- \_\_\_ 47. Enjoy informally teaching other kids
- \_\_\_ 48. Prefer natural settings over the human influenced environment
- \_\_\_ 49. Communicate to others in a highly verbal way
- \_\_\_ 50. Reason things out logically to solve problems
- \_\_\_ 51. Have an awareness of my deep inner feelings
- \_\_\_ 52. Enjoy doing jigsaw puzzles, mazes, “Where’s Waldo?” or similar visual activities
- \_\_\_ 53. Enjoy singing
- \_\_\_ 54. Skilled at a craft such as woodworking, sewing, sculpting or auto mechanics
- \_\_\_ 55. Have empathy or concern for the feelings of others
- \_\_\_ 56. Patient observer and notices even the smallest of things
- \_\_\_ 57. Appreciate nonsense rhymes, puns, tongue twisters, etc.
- \_\_\_ 58. Enjoy playing chess, checkers or other strategy games
- \_\_\_ 59. Able to learn from my failures as well as my successes
- \_\_\_ 60. Daydream more than I probably should
- \_\_\_ 61. Keep time to music
- \_\_\_ 62. Enjoy using manipulatives and other hands - on learning
- \_\_\_ 63. Serve as a “mediator” when disputes arise
- \_\_\_ 64. Recognize patterns, colors, and classifications
- \_\_\_ 65. Enjoy listening to the spoken word (stories, commentary on the radio, talking books, etc.)
- \_\_\_ 66. Devise experiments designed to test out things not easily understood
- \_\_\_ 67. React with strong opinions when controversial topics are being discussed
- \_\_\_ 68. Doodle while listening in class
- \_\_\_ 69. Unconsciously hum to myself when working or doing some other activity
- \_\_\_ 70. Have a dramatic way of expressing myself
- \_\_\_ 71. Give advice to friends that have problems
- \_\_\_ 72. Will touch and explore “yucky things”
- \_\_\_ 73. Like doing crossword puzzles or playing word games
- \_\_\_ 74. Enjoy logic puzzles or brain – teasers
- \_\_\_ 75. Feel pretty good about myself most of the time
- \_\_\_ 76. Get more out of pictures than words while reading
- \_\_\_ 77. Have a good singing voice
- \_\_\_ 78. Love to take things apart and put them together again
- \_\_\_ 79. Van read “social situations” accurately
- \_\_\_ 80. Very comfortable in the out of doors

**Multiple Intelligence Inventory - Key**  
**Put a check beside the number of each statement.**

___ 1.	___ 16.	___ 31.	___ 46.	___ 61.	___ 76.
___ 2.	___ 17.	___ 32.	___ 47.	___ 62.	___ 77.
___ 3.	___ 18.	___ 33.	___ 48.	___ 63.	___ 78.
___ 4.	___ 19.	___ 34.	___ 49.	___ 64.	___ 79.
___ 5.	___ 20.	___ 35.	___ 50.	___ 65.	___ 80.
___ 6.	___ 21.	___ 36.	___ 51.	___ 66.	
___ 7.	___ 22.	___ 37.	___ 52.	___ 67.	
___ 8.	___ 23.	___ 38.	___ 53.	___ 68.	
___ 9.	___ 24.	___ 39.	___ 54.	___ 69.	
___ 10.	___ 25.	___ 40.	___ 55.	___ 70.	
___ 11.	___ 26.	___ 41.	___ 56.	___ 71.	
___ 12.	___ 27.	___ 42.	___ 57.	___ 72.	
___ 13.	___ 28.	___ 43.	___ 58.	___ 73.	
___ 14.	___ 29.	___ 44.	___ 59.	___ 74.	
___ 15.	___ 30.	___ 45.	___ 60.	___ 75.	

**Now add up the checks you have for the following statements.**

The number of checks per category reflects your strength of that intelligence.

\_\_\_\_\_ Total checks for statements 1, 9, 17, 25, 33, 41, 49, 57, 65, 73  
(This reflects your **Linguistic** Intelligence)

\_\_\_\_\_ Total checks for statements 2, 10, 18, 26, 34, 42, 50, 58, 66, 74  
(This reflects your **Logical - Mathematical** Intelligence)

\_\_\_\_\_ Total checks for statements 3, 11, 19, 27, 35, 43, 51, 59, 67, 75  
(This reflects your **Intrapersonal** Intelligence)

\_\_\_\_\_ Total checks for statements 4, 12, 20, 28, 36, 44, 52, 60, 68, 76  
(This reflects your **Spatial** Intelligence)

\_\_\_\_\_ Total checks for statements 5, 13, 21, 29, 37, 45, 53, 61, 69, 77  
(This reflects your **Musical** Intelligence)

\_\_\_\_\_ Total checks for statements 6, 14, 22, 30, 38, 46, 54, 62, 70, 78  
(This reflects your **Bodily - Kinesthetic** Intelligence)

\_\_\_\_\_ Total checks for statements 7, 15, 23, 31, 39, 47, 55, 63, 71, 79  
(This reflects your **Interpersonal** Intelligence)

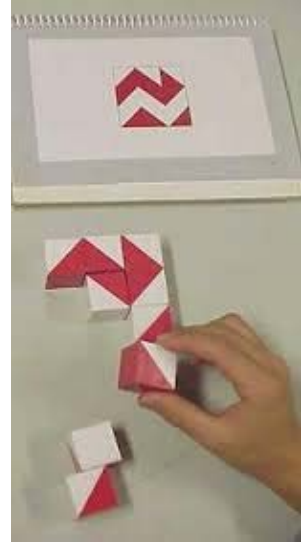
\_\_\_\_\_ Total checks for statements 8, 16, 24, 32, 40, 48, 56, 64, 72, 80  
(This reflects your **Naturalist** Intelligence)



# Block Design

Directions for EASY cards:

- Set blocks to “starting position” where the two red are side by side, the two green are side by side and directly below the red, and finally the two blue are side by side and directly below the green blocks.
- Set timer for 60 second
- Show one design card
- Record if they are successful or not on attempt one.
  - If yes, earn 4 points
  - If no, set blocks to “starting position” and then they get a second attempt
  - Record if they are successful or not
    - If yes, earn 2 points
    - If no, earn 0 points
- Continue with EASY designs until subject gets two consecutive zero scores (in other words, two designs that they cannot do correctly with two attempts).



Directions for DIFFICULT cards:

- Set timer for 120 second
- Show one design card
- Record if they are successful or not on attempt one.
  - If yes, earn 4 points
  - If no, set blocks to “starting position” and then they get a second attempt
  - Record if they are successful or not
    - If yes, earn 2 points
    - If no, earn 0 points
- Continue with DIFFICULT designs until subject gets two consecutive zero scores (in other words, two designs that they cannot do correctly with two attempts).

EASY	TRIAL ONE SCORE (0 or 4)	TRIAL TWO SCORE (0 or 2)
DESIGN 1		
DESIGN 2		
DESIGN 3		
DESIGN 4		
DESIGN 5		

TOTAL SCORE:

DIFFICULT	TRIAL ONE SCORE (0 or 4)	TRIAL TWO SCORE (0 or 2)
DESIGN 1		
DESIGN 2		
DESIGN 3		
DESIGN 4		
DESIGN 5		
DESIGN 6		
DESIGN 7		
DESIGN 8		
DESIGN 9		
DESIGN 10		

TOTAL SCORE:





# CLASSIC CREATIVITY TEST

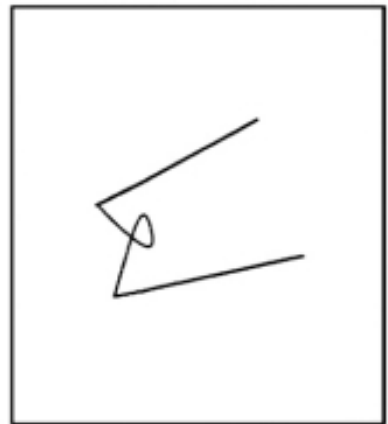
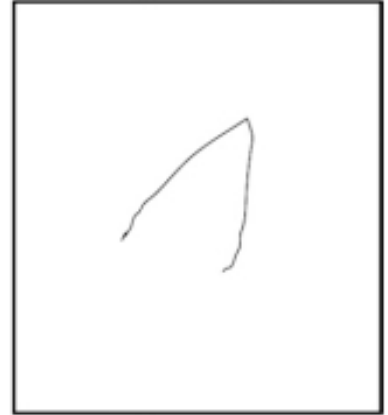


## 1. Alternative Uses:

How many uses can you think of for a spoon?  
You have two minutes... Go!

## 2. Incomplete Figure:

You have two minutes, see what you can turn the two  
images on the right in to:



## 3. Riddles:

*A man has married 20 women in a small town. All of  
the women are still alive and none of them are  
divorced. The man has broken no laws. Who is the  
man?*

## 4. Remote Associates:

Take three unrelated words, such as “Falling – Actor – Dust,” and asks you to come up  
with a fourth word that connects all three words. In this case, the answer is “star,” as in  
“falling star,” “movie star” and “stardust.”

Time – Hair – Stretch—

Manners – Round – Tennis—

Ache – Hunter – Cabbage—



# Idea Generation: Divergent vs. Convergent Thinking

April 29, 2015 | Martin

When it comes to problem solving and idea generation, two ways are commonly cited, namely divergent and convergent thinking strategies. The convergent style of thinking was rapidly equated with typical intelligence during the Cold War. On the other hand, divergent thinking was equated with creativity and both were not uncommonly presented as competing or conflicting processes. While divergent thinking was considered to be good, its counterpart was seen as either bad or a necessarily evil considerably exaggerated in business and schools. Having said that, an important development in recent years is the increasing acceptance of the fact that real creative production needs both divergent thinking and convergent thinking, and not just the former.

## WHAT IS DIVERGENT THINKING?

The term “divergent thinking” refers to that strategy of solving problems characterized by the proposal of a multiplicity of possible solutions in an attempt to determine the one that works. It usually happens in a free-flowing, spontaneous manner, where multiple creative ideas are engendered and evaluated. A manifold number of potential solutions are studied in a brief span of time, and unconventional connections may be drawn. Once the stage of divergent thinking is complete, information and ideas are structured and organized using convergent thinking. Brainstorming and free writing are two processes that involve divergent thinking.

Divergence is typically signified by the capacity to produce many, or a greater number of complicated or complex ideas from a single idea or simple triggers or ideas. It calls for making unexpected combinations, changing information into unanticipated forms, identifying connections among remote associates, and the like. In divergent thinking, a single question returns multiple answers, and though the answers vary considerably depending on the person, all answers are of equal value. Perhaps they did not exist



ever before and so are novel, surprising or unusual. At times, this is true purely for the specific setting or in the experience of the person responsible for the variability in question. However, it may also be the case in an absolute sense.

Described below are eight elements of divergent thinking:

- **Complexity** – The capacity to conceptualize difficult, multifaceted, many layered or intricate products or ideas;
- **Curiosity** – The personality characteristic of displaying probing behaviors, searching, asking questions, learning to get more knowledge/information about something, and of being able to go deeper into ideas;
- **Elaboration** – The skill of adding to, building off of or embellishing a product or an idea;
- **Flexibility** – The capability of creating varied perceptions or categories wherefrom come a range of different ideas pertaining to the same thing or problem;
- **Fluency** – The skill of engendering many ideas so as to have an increase in the number of potential solutions or associated products;
- **Imagination** – The capability of dreaming up, inventing, or to think, to see, to conceptualize novel products or ideas, to be original;

- **Originality** – The skill of coming up with fresh, unusual, unique, extremely different or completely new products or ideas;
- **Risk-taking** – The readiness to be courageous, daring, adventuresome – take risks or experiment with new things so as to stand apart.

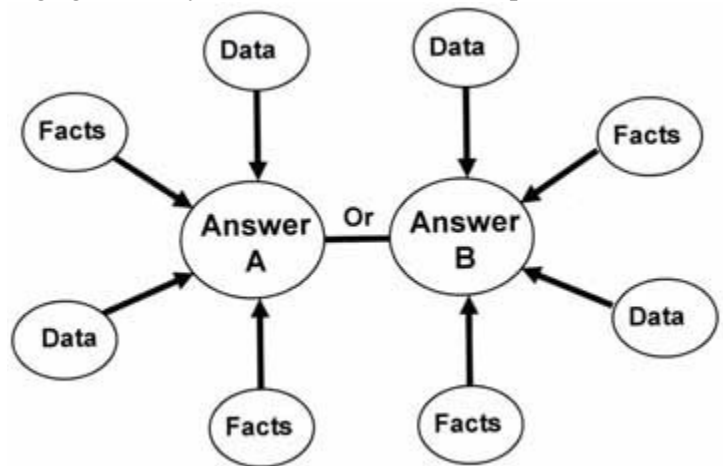
Divergent thinking has been detected in people with personality characteristics such as these – curiosity, nonconformity, persistence and readiness to take risks.

Bubble mapping, creating artwork, maintaining a journal, subject mapping, devoting some time to meditation and thinking, and building lists of questions are all examples of activities that trigger divergent thinking.

What follows is an extreme example of divergent thinking. Twitter developed an online service that did not have any obvious practical application. The social media platform then initiated it to find out how people used the application so that based on the findings, the application could be refined. Though launching something and finding out what the market for it is only after the launch doesn't have to be a bullet-proof strategy (most cases it's not), this seemed to be the case for Twitter.

## WHAT IS CONVERGENT THINKING?

Convergent thinking is a problem solving technique involving the bringing together different ideas from different participants or fields to determine a single best solution to a lucidly defined problem. In other words, this is a kind of thinking that concentrates on finding out the single best or frequently, correct solution to a problem or answer to a question. The credit for coining the term “convergent thinking” goes to Joy Paul Guilford. He came up with the term as an opposite term to “divergent thinking.” The focus for this thinking strategy is speed, logic and accuracy and on identifying the known, reapplying techniques, and amassing stored information. This strategy is best suited for situations characterized by a readily available answer that just has to be worked out or recalled by way of decision-making strategies. A vital facet of convergent thinking is that it culminates in one best answer, meaning there is no chance for ambiguity. You either have a right answer or a wrong one. This type of thinking is also associated with knowledge (one of the key facets of creativity) as it entails using existing knowledge by way of standard procedures.



Standard IQ tests measure convergent thinking. Logic thought flow, pattern recognition, the capacity to solve problems and testing knowledge can all be evaluated and graded in these tests. Standardized multiple choice questions are also an example of testing convergent thinking.

## DIVERGENT VS. CONVERGENT THINKING

Given below is a comparison of the two thinking styles with the factors of comparison being mood, creative ability, intellectual ability, brain activity, personality and sleep deprivation.

**Mood** – Research shows that gearing up for a creative thinking job can bring on mood swings determined by the kind of thinking utilized for the task. As per the research, convergent and divergent thinking affect mood in converse ways. While the former triggered a negative mood, the latter triggered the exact opposite – a positive mood.

**Creative Ability** – Creative ability was gauged in a study having both divergent and convergent tasks. In the case of the divergent tasks, though taken as a group, all the tasks showed a connection, they were not significant when studied between conditions.

With respect to the convergent tasks, two kinds were used. The first were remote associates tasks, which provided the subject with three words and asked the subject what word the three given words are connected to. The second kind were insight problems, which provided the subjects with certain contextual facts and posed a question to them that called for shedding light on.

The convergent thinkers accurately solved a greater number of the five remote associates problems compared to their counterpart divergent thinkers. What's more, when answering to insight problems, those who engaged in convergent thinking solved a greater number of insight problems compared to the control group. Nonetheless, no considerable difference was observed between subjects engaging in divergent thinking and convergent thinking.

**Intellectual ability** – A sequence of standard intelligence tests was utilized to measure the divergent and convergent thinking capacities of adolescents. Outcomes from the tests showed that subjects who were categorized as considerably divergent thinkers had considerably higher reading and word fluency scores compared to subjects who were categorized to be low on divergent thinking. In addition, the considerably divergent thinkers were revealed as having higher penetration and anxiety scores. On the other hand, subjects categorized in the considerably convergent thinkers groups were revealed to have higher average grades for the previous school year and less of a problem doing their homework which signifies that their parents pushed them in the direction of post-secondary education.

**Brain activity** – Alterations in brain activity were assessed in subjects in the course of both divergent and convergent thinking. To achieve this, researchers analyzed the electroencephalography (EEG) patterns of participants in the course of divergent and convergent thinking. The alterations in brain activity, as they appeared in the EEG, were different for the two kinds of thinking. In contrast to a resting control group, both divergent and convergent thinkers produced considerable Alpha 1, 2 desynchronization. While divergent thinking caused amplitude reductions in the cortex's caudal regions in the Theta 1 and 2 bands, convergent thinking caused coherence boosts in the Theta 1 band that was more right-sided and caudal. The considerable soaring of coherence and amplitude signifies a close iteration between both brain hemispheres.

**Personality** – Personality correlates pertaining to convergent and divergent thinking were studied. Results show that two personality characteristics namely Extraversion and Openness were seen to make possible divergent thinking. Openness analyzes intellectual curiosity, artistic interest, originality, liberal attitudes, and imagination. No personality characteristics were found to be associated with convergent thinking. This implies that all people irrespective of their personality engage in the convergent manner of thinking.

**Sleep deprivation** – A 1988 study by J.A. Horne revealed that even a single night of sleep deprivation can cause significant impairment to divergent thinking. On the other hand, people engaged in convergent thinking tasks were seen to be more pliant with respect to short-term sleep loss.

Convergent and divergent thinking are similar in that both thinking strategies are used to determine solutions to problems. Not just that but both strategies are directed at determining the best solutions. It is frequently seen that problems are solved through a blend of convergent and divergent thinking.

Divergent thinking brings out the best outcomes when it is used for open-ended problems that enable creativity. Convergent thinking is ideally suited for situations where there exists one best correct answer and it is feasible to determine the answer by way of evaluation of available stored information. In addition, though it doesn't look the case, convergent thinking also contributes to idea generation. However, owing to the fact that the focus of divergent thinking is ideas rather than process, any solution determined as a result of divergent thinking, frequently needs convergent thinking to convert it into a practicable to-do-list.



Name: \_\_\_\_\_

## **CULTURAL BIAS IN TESTING**

**Directions:** Please access the video playlist at <http://tinyurl.com/pgxhkcv>. You will be watching 4 videos that will guide you through some of the controversies that currently exist in standardized testing field.

### **VIDEO #1: CNN: Is the SAT biased?**

1. What evidence does the video give for the SAT being biased? List 2 pieces of evidence.
  
2. What counterargument does the College Board give?
  
3. What solution does the reporter give?

### **VIDEO #2: Intelligence & Culture**

1. What were Judy Kearins's initial findings with aboriginal children?
  
2. What kind of test does she develop, and what does she hypothesize?
  
3. What differences does Kearins see between white and aboriginal children?

### **VIDEO #3: Stereotype Threat - social psychology in action**

1. What is *stereotype threat*?
  
2. Describe the experiment in the video. What are the independent variable and dependent variable?  
  
IV:  
  
DV:

3. How do the results illustrate stereotype threat?

**VIDEO #4: Women, math, and stereotype threat**

1. How did the experimenters set up the stereotype threat in their research?

2. What happened to the women during the subsequent verbal tasks?

3. What explanations do the researchers give as to why the stereotype threat occurs?

**CONCLUDING THOUGHTS**

1. Do you believe that there is a cultural bias in IQ tests and college entrance exams? Explain.

2. To what extent do you believe stereotype threat is a problem in testing? Explain.

3. How have you seen cultural bias or stereotype threat in the real world?

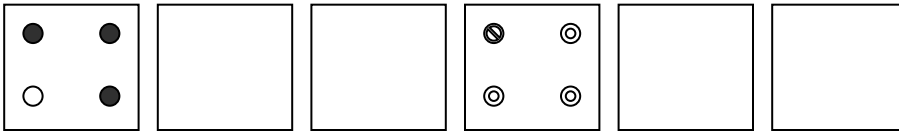
# MENSA TEST

1. Complete the analogy by writing one word in the spaces ending with the letters printed: **Egg** is to **ovoid** as **Earth** is to \_\_\_\_\_id.
2. What is the next term in the series? **9, 16, 25, 36, \_\_\_**?
3. Underline the two words in parentheses that have the same relation as the first two words: **Floor** is to **support** as (window, glass, view, brick)
4. **Aggravate** means the same as (burden, enrage, infect, intensify, complain).
5. In the square below there is a rule of arithmetic that applies across and down the square so that two of the numbers in a line produce the third number in each line. Write in the missing number.

Example:

3	1	2	6	2	12
1	1	0	4	5	20
2	0	2	24	10	?

6. Which one does not belong?

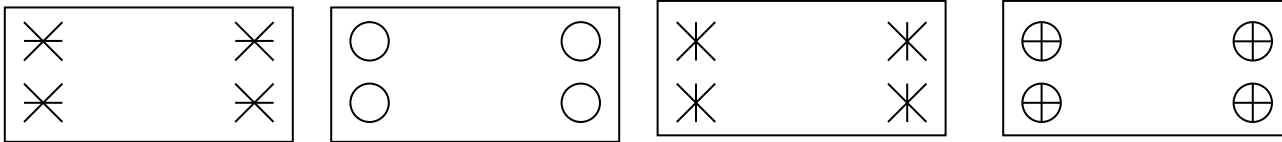
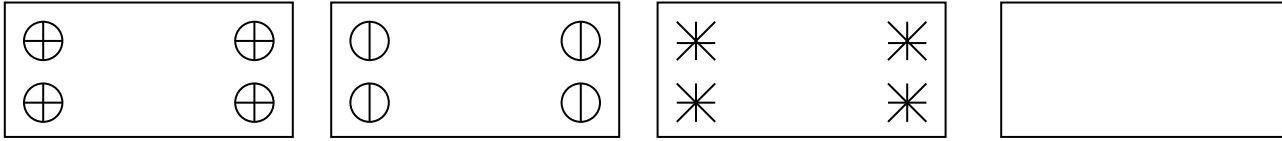


7. Underline the two words that are most nearly opposite in meaning:  
Reply, tell, relate, disconnect, refute
8. Some Mensa members are geniuses. All geniuses have some human virtues as redeeming qualities. Therefore:  
a. Mensa members all have some virtues  
b. All geniuses are quality Mensa members  
c. Some Mensa members have redeeming qualities
9. Green is to yellow as orange is to:  
a. blue b. purple c. brown d. yellow e. white
10. Mountain is to land as whirlpool is to:  
a. fluid b. wet c. sea d. sky e. shower
11. A is larger than B. C is smaller than B. Therefore:  
a. C is smaller than A b. C is larger than A c. C is equal to A
12. Underline the two words that are most similar in meaning:  
bless, blessing, benediction, blessed
13. Underline the two words whose meanings do not belong with the others:  
sword, arrow, dagger, dart, club
14. What number comes next in the series?  
2, 3, 5, 9, 17, ?

15. The old saying "the good is the enemy of the best" most nearly means:

- a. If you are good, you will be your best enemy.
- b. Be good to your best enemy
- c. Don't accept less than your best
- d. The good struggle against the best

16. Complete the following series:



- a.
- b.
- c.
- d.

17. Complete the analogy by writing one word in the space, ending with the letter printed:

Potential is to actual as future is to \_\_\_\_\_t.

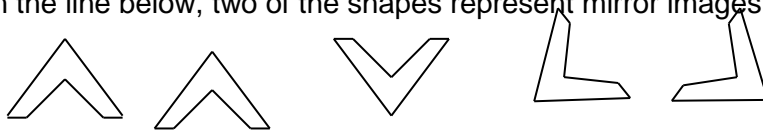
18. Underline the two words that are most nearly opposite in meaning:

Intense, extensive, majority, extreme, diffuse

19. Underline the two words in parentheses that have the same relation as the first two words:

Needle is to thread as (cotton, saw, leather, leader, follower)

20. On the line below, two of the shapes represent mirror images of the same shape. Underline that pair.









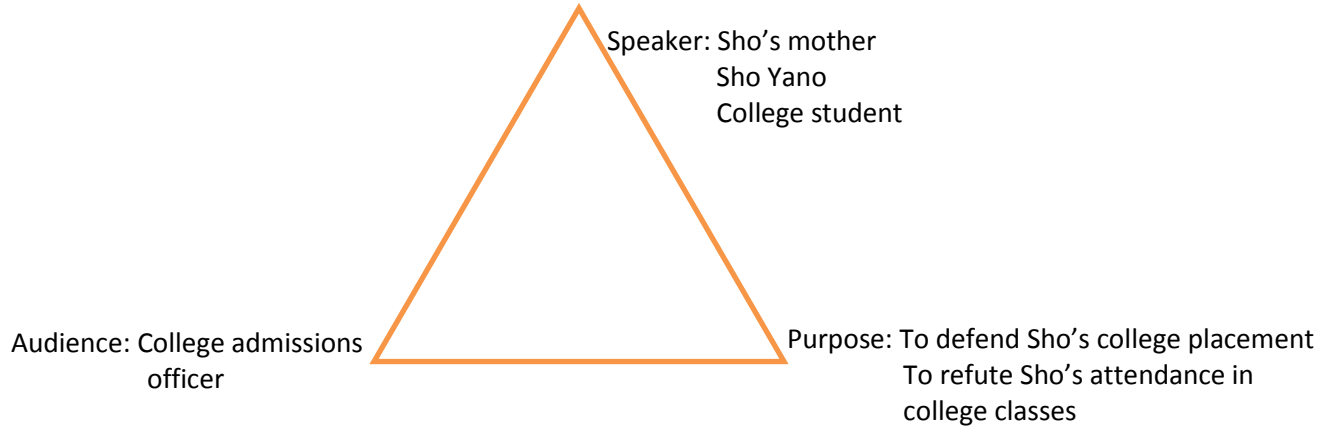
**YOUR HOMEWORK:**

Choose one of the situations below & write a persuasive paragraph

Name: \_\_\_\_\_

**RHETORICAL SITUATIONS – SHO & PETER**

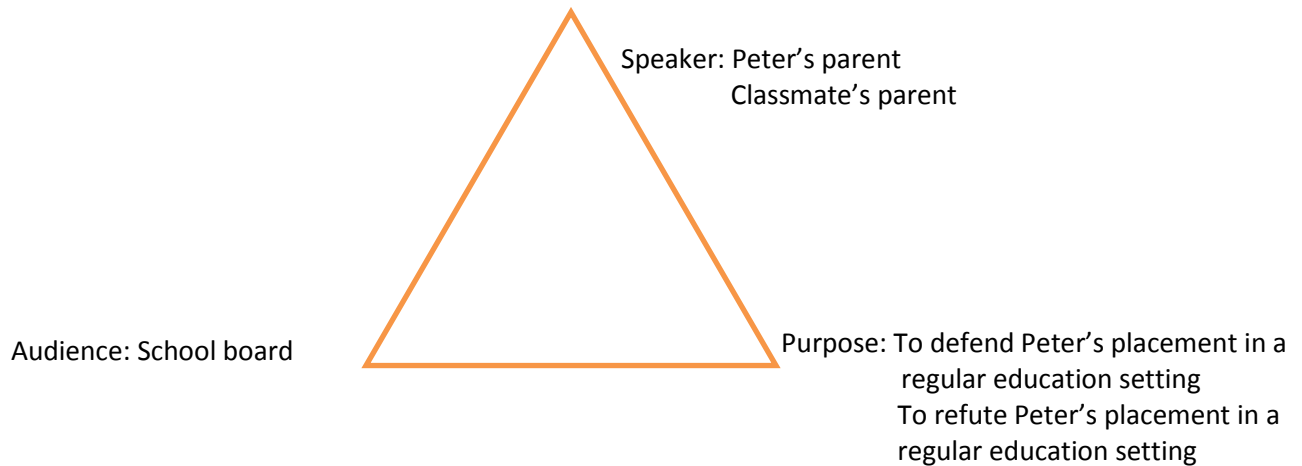
SHO YANO: Is a college setting appropriate to educate extremely gifted children?



CLAIM:

2 pieces of evidence you would include:

PETER: Is a regular education setting appropriate for a student with Downs Syndrome?



CLAIM:

2 pieces of evidence you would include: