

Human Intelligence

Intelligence is the rate of accrual of experience through acts of comprehension. It is represented mathematically as experience across time. High intelligence is the ability to obtain a large amount of experience over a short interval of time, while low intelligence is the “ability” to obtain a small amount of experience over a long period of time.

$$\text{Int} = \frac{\Delta \text{Exp}}{\Delta t}$$

When several people practice an activity a given period of time, each of these will acquire different experience levels according to their individual intelligence. Another example: two persons reach identical levels of experience in a certain activity, one through an exercise of 18~20 hours per week of that activity and the other through an exercise of 9~10 hours per week of that activity.

Any inferences on intelligence must be based on all forms of experience of an individual.

The act of understanding/comprehending is the key element of intelligence. However, defining the act of comprehension is most difficult. This activity mainly involves problem solving capabilities and the creation of new logical connections in the brain.

Problem solving capabilities involve no act of comprehension in two situations:

1) the solution originates from an external source.

Receiving a pre-solved conclusion excludes the possibility of comprehension. In logical terms, making a discovery means performing an act of comprehension – when the act of comprehension is performed by a third individual, however, intelligence is not involved¹.

2) the solution originates from previous experience.

Using an already existing connection to obtain a solution excludes the possibility of comprehension. (Numerous scientists have defined intelligence as the ability to solve new problems, ability to adapt to new situations etc, basically stating the same idea².)

Acts of comprehension are performed when:

a) solutions to new, unfamiliar problems are obtained

b) familiar problems are solved in a new, original way

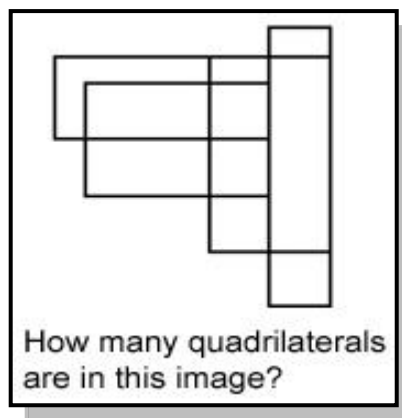
¹ This principle applies to acts of comprehension regardless of their degree of social importance (great scientific discoveries and small everyday-life acts of comprehension).

² This principle applies to iq testing as follows: standardized iq tests offer a correct measure of intelligence in the absence of previous experience.

In the following examples shall be provided of iq tests involving acts of comprehension and iq tests not involving acts of comprehension. (One criteria of differentiation would be this: in problems involving acts of comprehension using a pencil and paper to obtain the solution shows no advantage.)

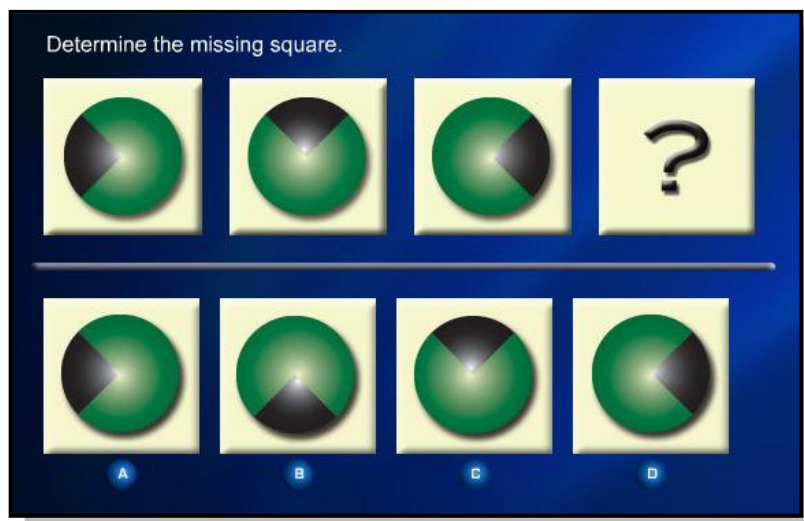
A) Problems not including acts of comprehension:

- » your starting and ending points will be just an inch apart if you draw a line seven inches left, three inches up, two inches right, four inches down and five inches right. True or false?
- » twenty percent of 25% of 20 is: ...
- » five horses, two people, three dogs and seven chickens have a total of how many legs?
- » W's grandmother's daughter could be W's son's grandmother. True or false?
- » five thousand eight hundred fifty three is three thousand five hundred eighty three read backwards. True or false?
- » graphic problem:



B) Problems including acts of comprehension:

- » the next element of this series is: 1, 3; 2, 9; 3, 27; 4, ...;
- » graphic problem:









» graphic problem:

4x4 grid of circles with a 3x3 pattern of shaded circles. A question mark and the text "Determine the missing square." are to the right.

a. 4x4 grid with 3 shaded circles in the top row.
b. 4x4 grid with 3 shaded circles in the middle row.
c. 4x4 grid with 3 shaded circles in the bottom row.
d. 4x4 grid with 3 shaded circles in the top row, middle row, and bottom row.
e. 4x4 grid with 3 shaded circles in the top row, middle row, and bottom row, plus 3 shaded circles in the middle column.

» graphic problem:

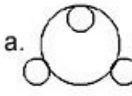
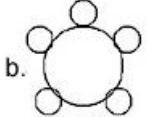

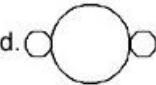
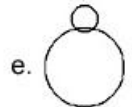
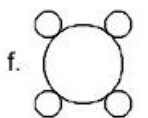
Which of the following does not belong to the group?

a.  b.  c. 
d.  e.  f. 

» graphic problem:

Determine the missing figure.

3x3 grid of figures. The last cell contains a question mark.

a.  b. 
c.  d. 
e.  f. 

In graphic problems the presence of non-related elements should be avoided.

Author: Crisan Flaviu
flvcrisan@yahoo.com