

Choose one of the following subjects:

First Subject:

Mathematical principles are innate ideas and a pure creation of reason.

- 1- Explain this judgment and state the problematic it raises. **(9 points)**
 - Write an introduction on the origin and importance of mathematics.
 - Write a suitable problematic: general problematic and specific problematic.
 - Write a preliminary idea on the rational school of thought.
 - Explain the rationalist theory on the origin and nature of mathematics: it is an innate nature and of a rational origin. Plato's point of view, Descartes and Kant...
- 2- Discuss this judgment in light of another theory. **(7 points)**
 - Write a transitional sentence linking the thesis to the anti-thesis
 - Write an internal criticism of the rationalist theory on the origin of mathematics. (2ideas)
 - Write an external criticism: the empiricist theory that affirms that mathematical principles are of sensible origin. David Hume and John Stuart Mill. Give examples.
 - Write a synthesis joining both theories the rationalist and the empiricist.
- 3- Do you think that being good at mathematics is able to help us solving our economic problems? **(4 points)**

Justify your answer.

 - Write an explanation of the question.
 - Answer by a yes or a no and give examples.

Second Subject:

The good observation of natural facts allows us to reach scientific laws.

1- Explain this judgment and state the problematic it raises. (9 points)

- Write an introduction on the scientific knowledge and the experimental method.
- Write a suitable problematic: general problematic and specific problematic.
- Write a preliminary idea introducing the empiricist theory.
- Explain the Empiricist theory that favors the importance of the observation in the experimental method. Hume, Stuart Mill, Francis Bacon.

2- Discuss this judgment in light of other attitudes. (7 points)

- Write a transitional sentence linking the thesis to the anti-thesis
- Write an internal criticism of the empiricist theory. (2 ideas)
- Write an external criticism: The rationalist theory that favors the hypothesis in the experimental method. Give examples.
- The attitude of Poincaré and Claude Bernard on the priority of hypothesis in the experimental method.
- Write a synthesis joining both theories the rationalist and the empiricist...

3- Do you think that scientists are using their knowledge for the well-being of humanity? (4 points)

Justify your answer.

- Write an explanation of the question
- Answer by a yes or a no and give examples.

Third Subject: Text

The theory of form (Gestalt theory) is above all a theory of perception. It showed, with abundant (a lot) experiences and great valuable theories (successful theories), that perception is not composed of previous elements (known before) that are the sum of associated sensations; it is an immediate perception of the whole. When we perceive a physical feature,(a face) listen to a melody, perceive a geometrical shape, we do not begin to perceive elements, but we see at once the form or the melody as a whole. Even in the case where we see a black dot on a white background, it is already a whole, because the black dot is a figure, and the white is a background, and there is a relation of figure and background. Hence the elements that are simultaneously (at the same time) perceived are functions of each other.

Jean Piaget

- 1- Explain the ideas of the text and state the problematic it raises. **(9 points)**
 - Write a suitable introduction on perception.
 - Write a suitable problematic: general problematic and specific problematic.
 - Write a preliminary idea to introduce the gestalt theory.
 - Explain the ideas of the text on the nature of perception.
 - Explain the gestalt theory: the perception of the whole precedes the perception of the part: Koffka, Köhler, and Guillaume.
- 2- Discuss the ideas of the text in light of another theory. **(7 points)**
 - Write a transitional sentence linking the thesis to the anti-thesis
 - Write an internal criticism of the gestalt theory. (2 ideas)
 - Write an external criticism: the intellectualist theory: perception is an intellectual act. Give examples
 - Write a synthesis joining both theories the intellectualist and the gestalt.
- 3- Do you think that arts (music, painting..) are capable of changing our perception of reality? **(4 points)**
Justify your answer.
 - Write an explanation of the question
 - Answer by a yes or a no and give examples.