

University of Batna2, Faculty of Math and Computer science, Department of Mathematics

Module: English

Academic year: 2019/2020 (2nd semester)

Teacher: Mr. NACER Djamel

Level: Master One (Applied Mathematics; functional analysis and theories of linear operators; Partial differential equations and applications) MA; AFTOL; EDP

Assignment (Resit Exam)

Students who **missed** the deadline of their exam or were **absent** or those have this module in **debt** are kindly invited to submit their assignments to the following email n.nacerdjamel@gmail.com

- **The deadline is 22/10/2020 at 21h 00m. No assignment will be accepted after the deadline.**

- Use the font Times New Roman, size 12.
- Do not forget to write your **full name**, **specialty**, and **registration number** on answer sheet.

Read the text below and then do the activities

A “construction” is drawing geometric figures with a high degree of accuracy. The construction performed constitutes both a proof of the existence of a geometric object and the solution of the problem. The ancient Greeks were convinced that all plane figures can be constructed with a compass and a straightedge alone. Their methods of bisecting a line and an angle are ingenious and hard to improve on. They worked with all numbers geometrically. A length was chosen to represent the number 1, and all other numbers were expressed in terms of this length. They solved equations with unknowns by series of geometric constructions. The answers were line segments whose length were the unknown value sought. The Greeks imposed the restrictions of straightedge and compass for the construction of the problems. It is supposed that this tradition was started by Plato Greece’s

greatest philosopher. He claimed that more complicated instruments called for manual skill unworthy of a thinker. The Greeks failed to obtain the solution of the famous problems under the restrictions specified not due to the lack of ingenuity of the geometers. The Greeks' persistent efforts to find compass-and-straightedge ways of trisecting an angle, squaring the circle and duplicating the cube were not futile for almost 2000 years. The Greeks made great math discoveries on the way. The desire to gain full understanding of the theoretical character of the problems inspired many great mathematicians- among them Descartes, Gauss, Poncelet, Lindemann – to mention but a few. The long years of labor on these “impractical”, “worthless” problems indicate the care, patience, persistence and rigor of mathematicians in their attempts to perform the constructions and justify them theoretically. The problems did not exhaust themselves. Even nowadays some authors of the scientific papers issued “solutions” containing some fallacies. The search for the rigorous solution resulted in great discoveries and novel developments in mathematics.

Activity one: Which of these statements are true? Correct the false ones.

1. The ancient Egyptians were convinced that all plane figures can be constructed with a compass and a straightedge alone.
2. The Greeks succeeded to obtain the solution of the famous problems under the restrictions specified not due to the lack of ingenuity of the geometers.
3. The problems did not exhaust themselves.
4. The construction constitutes a proof of the existence of a geometric object.
5. The Greeks enforced the restrictions of straightedge and compass for the construction of the problems.

Activity two: Match the following terms with the appropriate definitions.

a. algebra	1. a physical quantity having magnitude and direction, represented by a directed arrow indicating its orientation in space
b. triangle	2. a step by step procedure by which an operation can be carried out
c. arithmetic	3. a proposition that is not actually proved or demonstrated, but is considered to be

	self-evident and universally accepted as a starting point for deducing and inferring other truths and theorems, without any need of proof
d. coordinate	4. the ordered pair that gives the location or position of a point on a coordinate plane, determined by the point's distance from the x and y axes
e. axiom	5. the part of mathematics that studies quantity, especially as the result of combining numbers (as opposed to variables) using the traditional operations of addition, subtraction, multiplication and division.
f. algorithm	6. a polygon with three edges and three vertices, e.g. a triangle with vertices A, B, and C is denoted ΔABC
	7. a branch of mathematics that uses symbols or letters to represent variables, values or numbers, which can then be used to express operations and relationships and to solve equations

Activity three: Complete the following sentences with the correct superlative form of the words listed below.

funny high delicious easy cold boring lucky smart

dirty rich valuable bad large cheap long scary

1. Yesterday was _____ day of the year. I almost froze to death walking home from school!

2. That was _____ movie I've ever seen. I almost walked out in the middle.

3. Please give me your recipe. That is _____ cake I've ever eaten.

4. Jerry is _____ student in our class. He gets the top grades in every course.

5. Bob told _____ story last night. I couldn't stop laughing.

6. Whales are _____ animals in the world.

7. The Nile is _____ river in the world.
8. Marie is _____ person I know. She has won the lottery four times!
9. He is _____ speaker I have ever heard. Half the audience fell asleep during his speech.
10. Mount Everest is _____ mountain in the world.
11. That is _____ painting in the art gallery. It's worth a million dollars.
12. Bill Gates is one of _____ men in the world.
13. I finished the exercise in five minutes. It was _____ homework the teacher has ever given us.
14. Arthur hates to clean. He has _____ apartment I've ever seen.
15. My dinner only cost \$6.00. That must be _____ restaurant in town.
16. I was afraid to turn off the lights last night. That was _____ show I've ever watched.

Activity four: Translate the following passage into Arabic.

A "construction" is drawing geometric figures with a high degree of accuracy. The construction performed constitutes both a proof of the existence of a geometric object and the solution of the problem. The ancient Greeks were convinced that all plane figures can be constructed with a compass and a straightedge alone. Their methods of bisecting a line and an angle are ingenious and hard to improve on. They worked with all numbers geometrically. A length was chosen to represent the number 1, and all other numbers were expressed in terms of this length. They solved equations with unknowns by series of geometric constructions. The answers were line segments whose length were the unknown value sought.

Best of Luck!

