

MTH 6610 - History of Math Reading Assignment #5

SUMMER 2018

Pat Rossi

Name _____

Instructions. Read pages 141 - 181 to find the answers to these questions in your reading.

1. What factors made Alexandria a center of the “Hellenistic World?”
2. What factors made the Museum (the seat of the Muses) the center of learning of the “Hellenistic World?”
3. What was the only condition imposed on the lecturers of the Museum?
4. What was the main purpose of the Museum?
5. What observation has been made about a two-hundred year period, during the Museum was at it’s height?
6. The support of what institution further supported the museum?
7. What noteworthy mathematical scholars did the Museum produce?
8. What is the most noteworthy characteristic of the books, written by Euclid, that are known as “The Elements?”
9. What noteworthy step did Euclid take, to avoid the problem of “circular reasoning?”
10. Name the Postulates of Euclid’s “Elements.”
11. Name the Common Notions of Euclid’s “Elements.”
12. What are some shortcomings of Euclid’s work, “The Elements?”
13. Because of a lack of adequate algebraic symbolism, how did Euclid represent numbers?
14. (Referring to the previous question) Consequently, how did Euclid (and the Greeks) solve linear and quadratic equations?

15. Give detailed explanations as to how Euclid constructed:
 - (a) a decagon
 - (b) a pentagon
16. Why did the Greeks' approach to solving equations retard the progress of algebra for many centuries?
17. What important results from Number Theory are to be found in "The Elements?"
18. Describe the "Euclidean Algorithm." Describe the "step by step process." (Be somewhat specific here.)
19. What important property is possessed by any pair of integers that are "relatively prime?"
20. State the contents of "Euclid's Lemma."
21. State the "Fundamental Theorem of Arithmetic."
22. What major theorem, regarding prime numbers, is attributed to Euclid?

Also, do the following Homework Exercises:

p. 161 1-6

p. 182 1,2,6,7,10-16