

MTH 6610 Reading Assignment #8

SUMMER 2018

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Name _____

Instructions.

Read pages 238-285 and answer the following questions.

1. In what two ways did Europeans eventually benefit from the writings of al-Khowârizmi?
2. (Related to the previous question) What is the significance of the contents of the book *Book of Addition and Subtraction According to the Hindu Calculation*?
3. Relating to the solutions of quadratic equations, in what ways did the Arab mathematicians view solutions differently than their Greek predecessors?
4. What major advance over earlier mathematicians was made by Abu Kamil?
5. What is the significance of Thâbit's text, *Book on the Determination of Amicable Numbers*?
6. What feat did Khayyam accomplish?
7. In what manner did Khayyam approach these problems?
8. What two mathematical "firsts" are contained in the text *Nine Chapters*.
9. After the collapse of the Western Roman Empire, what accounted for the preservation of the knowledge of the Ancients?
10. Besides the institution referred to in the previous question, what other source contributed to the preservation of knowledge during the "Dark ages?"
11. Whom did Charlemagne employ to promote learning in the Dark Ages?
12. What brought an end to the revival of knowledge, begun by Charlemagne?
13. What was the Arabs greatest contribution to European mathematics?
14. What would logically be considered Gerard of Cremona's greatest contribution to European mathematics?
15. What is known of Fibonacci's background?

16. What main contribution was made by Fibonacci in his text *Liber Abaci*?
17. With what topic does Fibonacci's text *Liber Quadratorum* deal exclusively?