

History of Math - Reading Assignment #1

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Name _____

Instructions. Read pages 1-28, find the answers to these questions in your reading.

1. In what region(s) did special symbols for numbers first appear?
2. What is the relationship between number systems and language?
3. What circumstances precipitated the development of Egyptian mathematics?
4. By what date did the Egyptians have a “fully developed number system,” that would allow for counting to continue indefinitely?
5. What examples from archaeology confirm that the Egyptians did indeed have a “fully developed number system?”
6. Describe the Egyptian system (i.e., what base, was it place value?, etc.)
7. Describe the Ionic system (i.e., what base, was it place value?, etc.)
8. Why was the multiplicity of symbols in the Ionic system hinder the Greeks of Ionia in their mathematical development?
p. 15 in 4th edition (729 different symbols hid relationships that might have been obvious, otherwise)
9. Regarding the Babylonian system, why was Cuneiform script a natural consequence of the writing medium?
10. Describe the Babylonian system (i.e., what base, was it place value?, etc.)
11. What flaw (causing ambiguity in interpreting the value of a number) existed in the Babylonian system?
12. How and when was this flaw corrected?
13. Ask about Ptolemy’s use of zero in 150 AD
p. 23 of 4th edition
14. Did this remedy the situation completely?

15. What do we know about the early Chinese number system?
16. Why is so little known about the number systems of the India and China, as compared with Egypt and Babylonia?
17. Throughout Chinese history, what has been the main importance of mathematics?

On page 18, do the following exercises: 1 a, c, e; 2 a, b; 3 a, c; 5 a, c, e; 6 a, c; 7 a, c

On page 28, do the following exercises: 1 d, e, f; 2 a, b (ans 116,712); 3; 4; 5