

Math Topic Decisions

Basic Skills Project

2.19.2009

Present: John Andrich, David Magallanes, Lilia Ruvalcaba, Hussein Fahs, Cat Yang, Patrick Gass, Mark Bates

- 1. Measurement:** Consensus opinion was that some measurement should be taught, preferably in Math 10. At minimum, linear measure and basic conversion (both standard and metric units) should be taught. **Mark will look at possible Math 10 texts and will revisit with department about exactly what sections to include in a custom textbook.**
- 2. Mean, Median, Mode:** Consensus opinion was that while averaging is taught in Math 9 (with whole-number division), that the concepts of mean, median, and mode were statistical terms unnecessary at this level. **Decision was to drop these topics from basic skills curriculum, with the understanding that they will be covered in detail in Math 105.**
- 3. Signed Numbers:** Consensus opinion was that a natural break in basic skills development is to deal with Math 9 topics using only whole numbers, with the expansion of many of those topics in Math 10 using negative numbers. **Decision was to delete the "optional" use of signed numbers in the Math 9 course outline.**
- 4. Simplifying Square Roots:** Consensus opinion was that it was important to introduce square roots in Math 10, and also to evaluate them in the following manner:

$$\sqrt{36} = 6 \text{ because } 6^2 = 36$$

$$\sqrt{60} \text{ is between 7 and 8 because } 7^2 = 49 \text{ and } 8^2 = 64$$

...but **not** $\sqrt{60} = 2\sqrt{15}$ (by factoring out perfect squares)

Opinion was that such methods would be introduced entirely in Math 14, and thus were disjointed (and unnecessary) here. **Decision was to eliminate this specific topic from Math 10.**

5. Exponents and Polynomials (Math 10): Opinion was divided among how much introduction to polynomials should be shown in Math 10. Teachers currently range from:

- a. No polynomials at all in Math 10
- b. Multiplication of monomials only (with requisite exponent rules)
- c. Addition and Subtraction of polynomials
- d. Multiplication of Binomials

After discussion, there was general agreement that level **b** or **c** were probably most appropriate to the Math 10 student, as they introduced the vocabulary and concept, without the rigor of binomial multiplication. **Mark will continue to take feedback on this topic, and will bring back possible Math 10 texts to examine what sections should be included in this area.**

6. Introduction to Functions (Math 11): Consensus was that the current section (3.6) in Math 11 is disjointed with the rest of chapters 3 and 4, and better introduced fully in Math 14. **Decision was to delete this section of Math 11, with the understanding that it will be covered in full in Math 14.**

7. Synthetic Division: Consensus was that this topic was important for Math 115, but unnecessary to teach in Math 11. Discussion ensued about putting this topic in a hypothetical "appendix" (to be taught at the discretion of the instructor), but this was seen to create a conflict this alignment was designed to avoid. **Decision was to delete this topic from Math 11.**

8. Row Operations/Cramer's Rule: These topics were quickly considered separately. Consensus was that row operations were important at this level, while Cramer's Rule (and the topics that must be taught to support this) were covered in Math 106 and 115. **Decision was to leave Row Operations in Math 14, and remove Cramer's Rule.**

9. Sequences and Series: Discussion revolved around the importance of these topics in Math 14, considering that most others colleges do not include them. Consensus was that it was important to recognize kinds of sequences (arithmetic, geometric, etc.) and perhaps to generate the n^{th} term of such a sequence. The study of series, partial sums, and the Binomial Theorem, however, were deemed more appropriate for a higher level class. **Decision was to leave a basic section on Sequences, and remove the remainder of topics in this area.**