

For the Curriculum Subcommittee

of the

Chancellor's Commission on Mathematics in New York City

Notes by

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Acknowledgements: I thank Burt Lieberman for inviting us to attend this meeting. I, Jonathan Goodman, prepared these notes so they may not represent Alan Siegel's views exactly. My views have been shaped by many people, but two of the most important are Elizabeth Carson, a parent in District 2, and Catherine Fosnot, Professor of Mathematics Education at CCNY. Cathy Fosnot will disagree with much of this document, however.

Summary: We question many of the new math curricula being introduced in New York City and around the country, particularly those based on constructivist teaching philosophy. In particular, we question the TERC, CMP and ARISE curricula being introduced in District 2 and in their parts of New York City. We feel that these curricula will lead to lower performance on the Regents' exams and leave students unprepared for college. These curricula are not sufficiently rigorous. They omit key areas of mathematics, including computational skills (in the lower grades) and mathematical reasoning (in the upper grades). They are based on incorrect theories of learning and designed by people with little understanding of mathematics or what mathematical skills are needed to succeed in college. The *New Standards*TM document for mathematics in New York City and the *Resource Guide* require significant revision before being truly suitable guides for curriculum development.

Many states, including California and Texas, have been forced by parent rebellions and weight of academic evidence to abandon constructivist, so called "standards based" mathematics curricula. We need not send New York City down the same path.

Recommendations:

1. The curriculum guides issued by New York State need not and should not be used to prepare New York City students for the Regents exams. The curriculum guides are based on constructivist educational philosophy while the exam simply tests mathematics.
2. The New York City Resource Guide for Mathematics A (the only one I have been able to review) needs serious revision. The current (draft?) guide has too many errors and relies too heavily on constructivist theory.
3. The report of the Commission on Mathematics should question the correctness of constructivist mathematics education theory, or, at least, refrain from endorsing it.
4. Specialists in mathematics education within the New York Public School system and around the country have shown themselves unable to design good math curricula. At least in the short term, we need an independent panel with experts in mathematics as well as mathematics education to oversee mathematics curriculum development in New York City.
5. The report of the Commission should question the curriculum guide of New York State and suggest that their math education people also need some oversight.
6. The sample Regents Mathematics A exam I reviewed had numerous small mistakes. The future exams should be checked by mathematicians.

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