Summary of Rationale for Pre-Calculus Recommendation

Foerster (Key Curriculum Press: *PreCalculus with Trigonometry*)

Benefits

- Solid content; good explorations. Develops understanding of the code and language of mathematics while a concept is being learned. May be too much trigonometry, but this could be modified. Content-wise Foerster is stronger, builds conceptual understanding and is integral to what students learn. Feel like the "why" is an add-on with the Demana – the teacher would have to provide opportunities to get to the why.
- Plenty of resources for introducing topics for exploration, rather than being explorations only being used for enrichment or reinforcement. The explorations lead students to discover something; in Demana the explorations are more like practice problems.
- Group problems made sense – some in Demana just seemed like longer or multi-step problems, but not clear why a group was required.
- Web-based dynamic explorations (Demana has these also).
- Teachers can use group work or lecture, but there are enough examples so if students miss class, they can catch up. Set up for a wide range of teacher and student approaches; flexibility for teacher to sometimes teach one way and sometimes another.
- Piecewise functions introduced early, and seemed much more natural. Typically a difficult topic in PreCalculus.
- Ancillary materials were very useable and didn't require a specific type of computer. Electronic resources have to hold up over time. Pdf files and word files will always be readable. Prefer ancillary materials in print form – more convenient and more portable. Good to have both, but would like to see all of the things teacher needs in book form – easier than having to log on and be on computer on.
- Each test has a no calculator part. Well designed in terms of what went into the no calculator piece. Test questions also include complex, higher-order skills.
- Readability

Concerns

- Black and white printing – not as lively or colorful to read. Demana is better visually.
- Resource manual is easier to read in Demana (for teachers), Foerster has a smaller font. Students are not going to have those, so it's more an issue for teachers.
- Overuse of calculator We (my school) use the calculator approach that the U uses, scientific only for many tasks. I want them to able to look at a scatter plot and start working with the problem. End up spending a lot of time – it is a plus that they have access, because some of the AP material requires a calculator.
- See dissenting opinion for additional concerns.
- Demana has self-diagnostic sections.
- Both books introduce radians later than some expected, but it's because they do right triangle trigonometry first. When the committee members checked the core recommendation (Key), they were satisfied with the introduction and treatment of radians there.

Glencoe – out by consensus; too calculator dependent, too busy. CPM – not considered once not chosen by Core Committee, due to strong need for CPM Adv Algebra in order to align with CPM PreCalculus.

Decision reached by **consensus**; informed by votes:

- Which text do you prefer that the district adopt? (Foerster 7, Demana 2)
- Which text can you and the district as a whole work with? (Foerster 9, Demana 8)

Summary of Rationale for Calculus Recommendation

Foerster (Key Curriculum Press: *Calculus*)

Benefits

- Both Finney and Foerster could be used for AB or BC Calculus; Larson requires the larger book.
- Book works fine in a lecture mode ore exploratory method of teaching. Some of the explorations just turn out to be the examples, just set up either exploratory or more step by step. You could decide. Accomodates broad range of teaching and learning styles.
- Connection from PreCalculus to Calculus.
- Larson is written more like a college textbook – different stage of intellectual development; Finney is more for a high school audience; Foerster – I've taught AB Calcu and BC Calc – found it to very satisfactory as far as materials, very good results on both tests, good feedback from students about learning.
- Coverage of topics such as limit of sinx over x more in depth.
- Fundamental Theorem comes right after Mean Value Theorem, which is used to prove the Fundamental Theorem. More dramatic and student-centered than the way I was taught.
- One committee member taught AP, he switched to Foerster and his rate went up. Another member had a similar comment.
- Good post BC test topics: inertia, moments of mass
- Better teacher guide – focuses on what's important in each lesson.
- Mathematically rigorous.

Concerns

- Larson more in-depth mathematically; after the AP test, good to add some things that are not on the test.
- Order is not in the order I teach, so it's based on a reform philosophy – see p. 29 of instructor's manual.
- "Calculus Journal" not something I want to use
- Foerster – overload on calculator – graph sine and cosine, see one is the derivative of the other – definite and indefinite integrals before max min concavity, before they deal with derivatives.
- Discussion about order – Foerster introduces integrals very early; response was that you could choose to skip that lesson, no make or break, but some members liked the students seeing the two big ideas of calculus early to build up to the Fundamental Theorem of Calculus.
- However, college math is broken out by quarters, so differential and integral calculus are separate.
- Concern about projects, not necessary for Calculus students.
- One member already has great results in his AP class (AP test pass rate) – why be forced to switch texts?
- Concern about formal definition of limit in Foerster.
- Concern about mathematical rigor.

Decision reached by **vote**, after a series of straw polls and attempt to reach consensus:

- Preference: (Foerster 8, Larson 1, Finney 0)
- Can work with: Foerster 8, Finney 5, Larson 5)
- Vote: I am in favor of making Foerster the recommendation of this committee: 8 – 1.

Dissenter moved that we recommend two Calculus texts; motion not seconded.

Summary of Rationale for Statistics Recommendation

Bock (Pearson/Addison-Wesley: *Statistics: Modeling the World)*

Benefits

- Investigative tasks have rubrics
- Good teacher resources – test banks, quizzes
- Good student resources – readable, highlighted text, "just checking" questions, index, glossary
- Includes habits of mind – "think, show, tell"
- Clear examples
- Good for interpretation of hypothesis testing
- AP test prep book; online resources, guidance for AP review
- Notes on common errors
- Plenty of open-ended questions for AP prep
- Good applications
- Uses real data and realistic problems
- Good investigative tasks
- Great visual for Type I/Type II error (pp. 494-96)
- Solid statistical approach.

Concerns

- None.

Decision reached by consensus.