

TOPICS FOR MATHEMATICS 153, SPRING 2010

TEXT: D. M. Burton, *The History of Mathematics: An Introduction* (Seventh Edition). McGraw-Hill, Boston *etc.*, 2010. **ISBN–10:** 0–073–38315–6.

I. Ancient mathematics

Generalities (Burton, Preface)

Egyptian and Babylonian mathematics (Burton, §§ 1.1–1.3, 2.2–2.5)

Early Greek mathematics (Burton, §§ 3.1–3.4, 10.1)

Euclid and the *Elements* (Burton, §§ 4.1–4.3)

Alexandrian mathematics after Euclid (Burton, §§ 4.1–4.5)

Late Greek mathematics (Burton, §§ 5.1–5.4)

II. The transitional period

Chinese, Indian and Arabic contributions (Burton, §§ 5.5, 6.1)

Revival of European mathematical activity (Burton, §§ 6.2–6.4, 7.1)

Mathematics in the late Middle Ages (Burton, §§ 7.1)

Mathematics in the Sixteenth Century (Burton, §§ 7.2–7.4, 8.1)

III. Calculus and subsequent developments

Precalculus mathematics in the Seventeenth Century (Burton, §§ 8.1–8.2)

The development of calculus (Burton, §§ 8.3–8.4)

Calculus after Newton and Leibniz (Burton, §§ 9.3, 10.2, 11.3)

Formal logic and set theory (Burton, §§ 12.2–12.4, 12.2)