**PowerPoint Lecture Order:**

**Chapter 1:**

1. Introduction/Ancient Egypt/Arithmetic (Pre-650BC). Pp 1.
2. Thales (640-546BC). Pp 6.
3. Pythagoras (572BC). Pp 8.
4. Hippocrates (440BC). Pp 10.
5. Great Theorem: Quadrature of the Lune. Pp 17.

**Chapter 2:**

1. Eudoxus (408-355BC). Pp 28.
2. Euclid: Euclid’s Proof of the Pythagorean Theorem, Book I (325-285BC). Pp 30.
3. Great Theorem: The Pythagorean Theorem. Pp 48.

**Chapter 3:**

1. Euclid: The Infinitude of Primes (ca 300BC). Pp 61.
2. Great Theorem: Infinitude of Primes. Pp 73.
3. Final Books of The Elements. Pp 75.

**Chapter 4:**

1. Archimedes (287-212BC). Pp 84.
2. Great Theorem: Area of a Circle Pp 89.
3. Archimedes Masterpiece: On the Sphere and the Cylinder. Pp 99.

**Chapter 5:**

1. Eratosthenes (284-192BC). Pp 114.
2. Apollonius (262-190BC). Pp 116.
3. Heron: Great Theorem: Formula for Triangular Area (75AD). Pp 117.

*\*Pop-Up Mathematician Here\**

* *Diophantus (201-215 to 285-299)*
* *Al-Khowarizmi (825 AD)*
* *Bhaskara (12th century)*

**Chapter 6:**

1. Paciolo (1445-1509), Ferro (1465-1526), Fior (ca 1506), Fontana/Tartaglia (1499-1557). Pp 134.
2. Cardano (1501-1576). Pp 135.
3. Great Theorem: The Solution of the Cubic. Pp 142.

*\*Pop-Up Mathematician Here\**

* *Mersenne (1588-1648)*

**Chapter 7:**

1. Viete (late 1500s), John Napier (1550-1617), Henry Briggs (1561-1631). Pp 156.
2. Descartes (1596-1650), Pascal (1623-1662), Fermat (1601-1665). Pp 157.
3. Newton (1642-1726). Pp 161.
4. Great Theorem: Newton’s Approximation of Pi. Pp 174.

**Chapter 8:**

1. Leibniz (1646-1716), Huygens (1629-1695). Pp 184.
2. The Brothers Bernoulli: Jakob (1654-1705), Johann (1667-1748). Pp 191.
3. Great Theorem: The Divergence of the Harmonic Series. Pp 196.
4. The Challenge of the Brachistochrone. Pp 199.

**Chapter 9:**

1. Euler (1707-1783). Pp 207.
2. Great Theorem: Evaluating the sum of square reciprocals. Pp 212.

**Chapter 10:**

1. The Legacy of Fermat. Pp 223.
2. Great Theorem: Euler’s Refutation of Fermat’s Conjecture. Pp 229.

**Chapter 11:**

1. Mathematicians of the nineteenth century, Berkeley (1685-1753), Cauchy (1789-1857), Weierstrass (1815-1897), Cantor (1845-1918)

*\*11.2: Modern Day Mathematicians/Mathematics*