

# Epilogue

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# Necessary Foundation

- Elementary algebra
  - algebraic manipulations are the basis programming
- Euclidian geometry
  - provides a large structure that allows one to learn architectural skills

# Primary text on Algebra

- George Chrystal, Elementary Algebra, volumes 1 and 2, AMS, 1999
  - <http://www.amazon.com/Algebra-Elementary-Text-Book-2-set/dp/0821819313/>

# Alternative texts on Algebra


- H.S. Hall and S.R. Knight, *Elementary Algebra*, *Higher Algebra* (two separate volumes)
  - many reprints, but beware of poor quality
- Of historical importance are
  - Isaac Todhunter, *Algebra for use of Colleges and Schools*
  - George Peacock, *Treatise on Algebra*, Vol. 1 and 2

# Primary text in Geometry





1. Euclid, *The Thirteen Books of the Elements*,  
Vol. 1: Books 1-2  
<http://www.amazon.com/The-Thirteen-Books-Elements-Vol/dp/0486600882/>
2. Euclid, *The Thirteen Books of the Elements*,  
Vol. 2: Books 3-9  
<http://www.amazon.com/The-Thirteen-Books-Elements-Vol/dp/0486600890/>
3. Euclid, *The Thirteen Books of the Elements*,  
Vol. 3: Books 10-13  
<http://www.amazon.com/The-Thirteen-Books-Elements-Vol/dp/0486600904/>








# Oliver Byrne's Edition

30 BOOK I. PROP. XXIX. THEOR.




**S**TRAIGHT line (—) falling on two parallel straight lines (— and —), makes the alternate angles equal to one another; and also the external equal to the internal and opposite angle on the same side; and the two internal angles on the same side together equal to two right angles.

For if the alternate angles  and  be not equal, draw —, making  =  (pr. 23). Therefore — || — (pr. 27.) and therefore two straight lines which intersect are parallel to the same straight line, which is impossible (ax. 12).




Hence the alternate angles  and  are not unequal, that is, they are equal:  =  (pr. 15);  $\therefore$   = , the external angle equal to the internal and opposite on the same side: if  be added to



BOOK I. PROP. XXX. THEOR. 31



**S**TRAIGHT lines (—) which are parallel to the same straight line (—), are parallel to one another.

Let — intersect { — };

Then,  =  =  (pr. 29.),

$\therefore$   = 

$\therefore$  — || — (pr. 27.)

# Byrne's Euclid

- <http://www.amazon.com/Six-Books-Euclid-Werner-Oechslin/dp/3836517752/>

# Easy Geometry

George Birkhoff and Ralph Beatley, *Basic Geometry*, AMS, 1999

<http://www.amazon.com/Basic-Geometry-AMS-Chelsea-Publishing/dp/0821821016/>