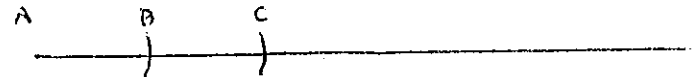
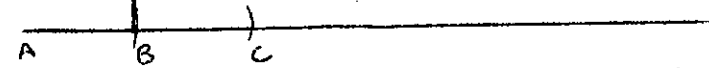


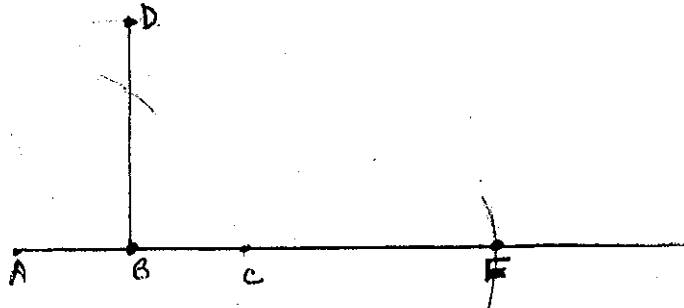
GOLDEN RATIO is when the 2 lengths, "a" and "b" have the property that $\frac{a}{b} = \frac{b}{a+b}$ or $\frac{a}{b} = \frac{b}{a-b}$



Step 1: Make AB, BC , so that $AB = BC$



Step 2: find the \perp to B with the intersection of $\odot A$ and $\odot C$



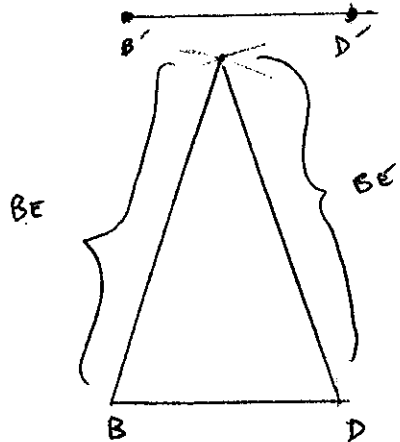
Step 3: Make D so that $AC = BD$
Make E so that $CD = CE$

The golden ratio exists between BD and BE

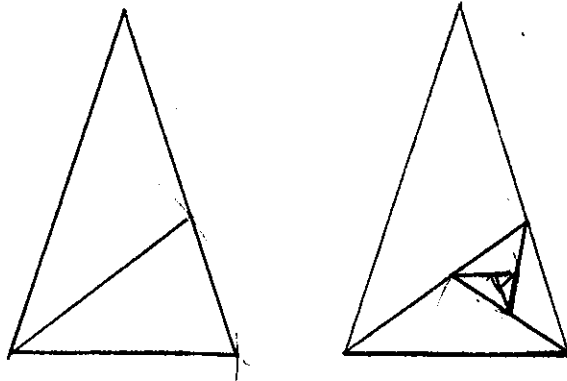
(i.e. $\frac{BD}{BE} = \frac{BE}{BD+BE}$ and $\frac{BD}{BE} = \frac{BE}{BE-BD}$)

GOLDEN TRIANGLE

Step 1: start with BD:

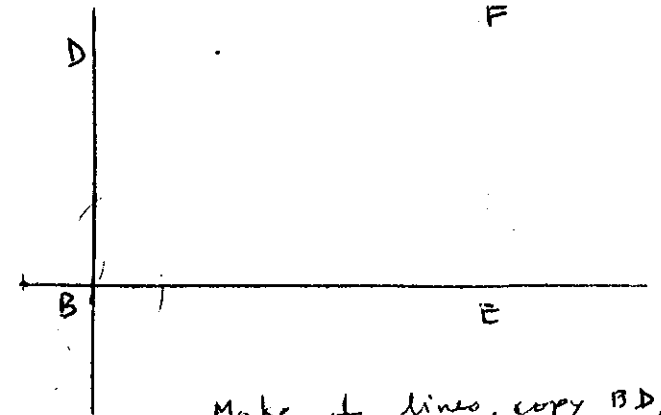


Step 2: Go to either end with compass open to length of BE



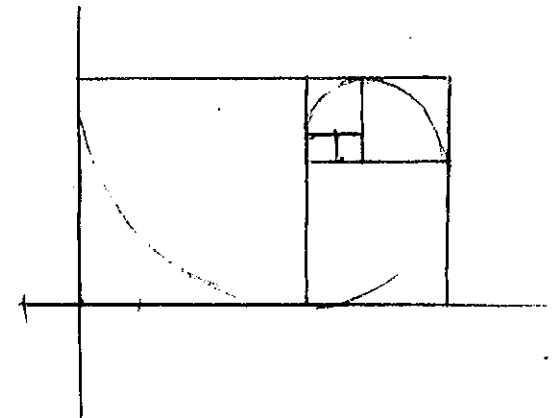
Step 3: you can now make ∞ golden triangles by making the small length the next leg of the next golden triangle

GOLDEN RECTANGLE



Make \perp lines, copy BD, BE
Make F so $EF = BD$ and $DF = BE$

The Golden Spiral



See dynamic demonstrations at www.mathorama.com/geom