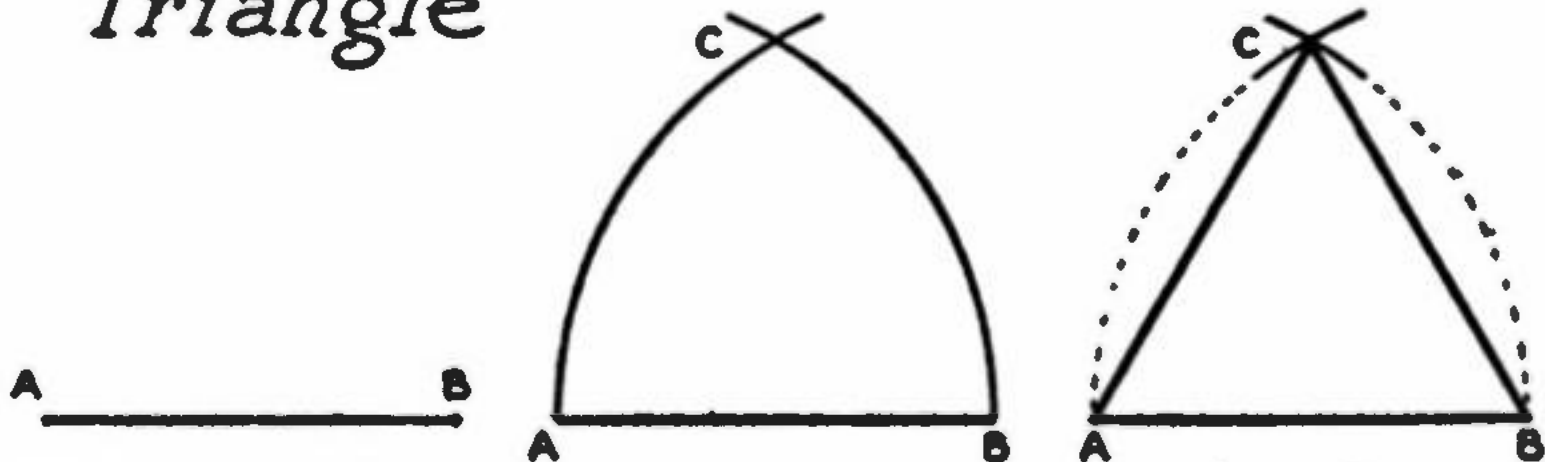


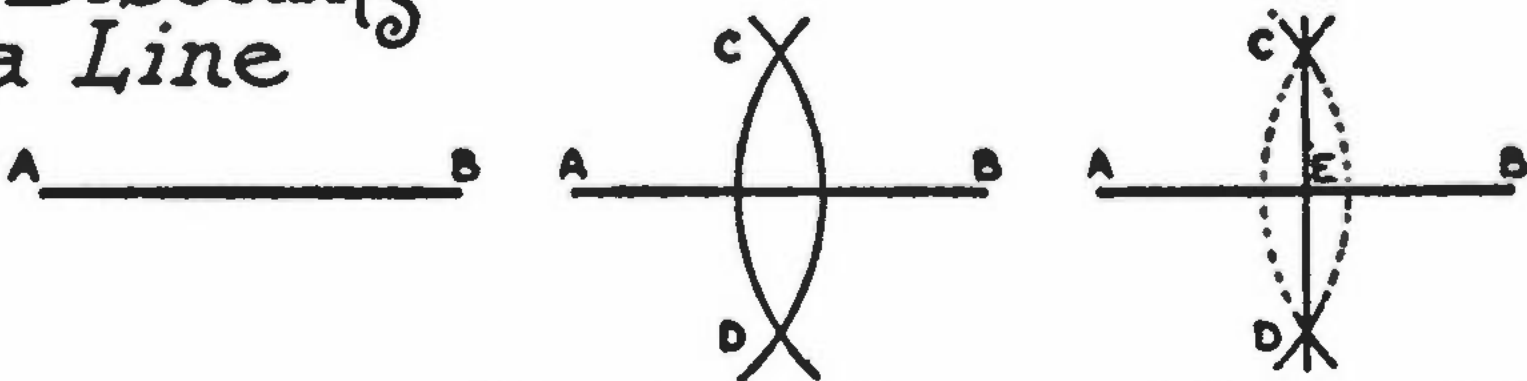
Making an Equal-Sided Triangle



With base AB as radius describe arc from A and arc from B intersecting in C

From C draw lines to A and B

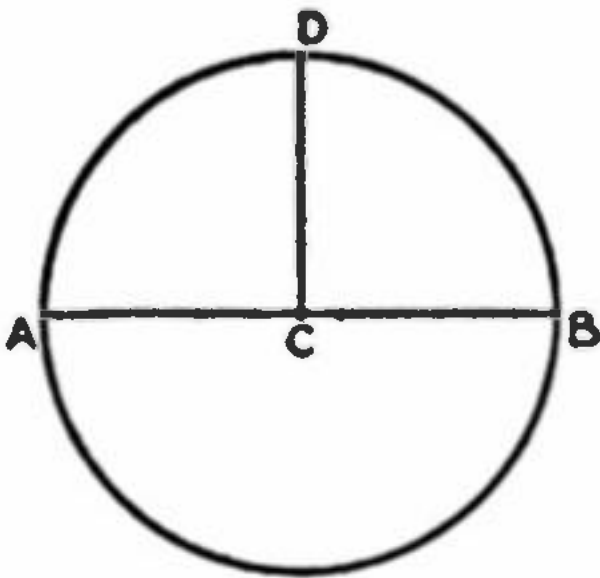
Bisecting a Line



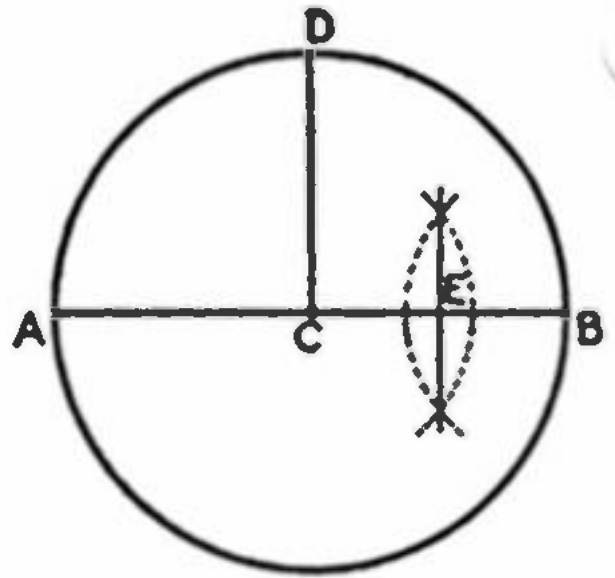
From A and B as centers describe arcs intersecting in C and D

A line from C to D will bisect AB in E

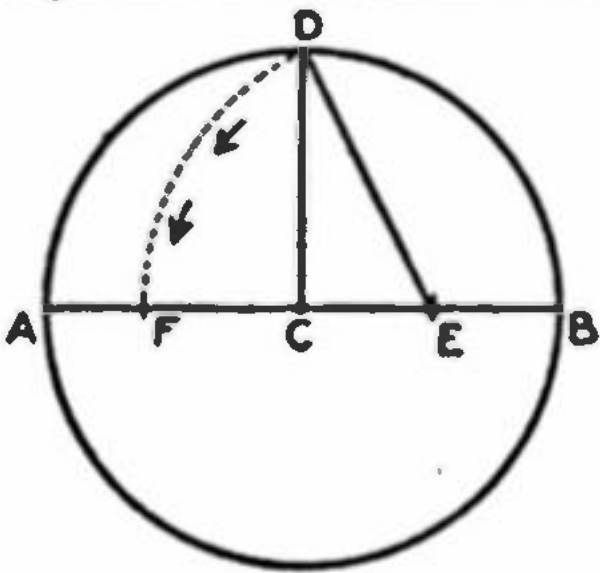
Drawing a Five-Pointed Star



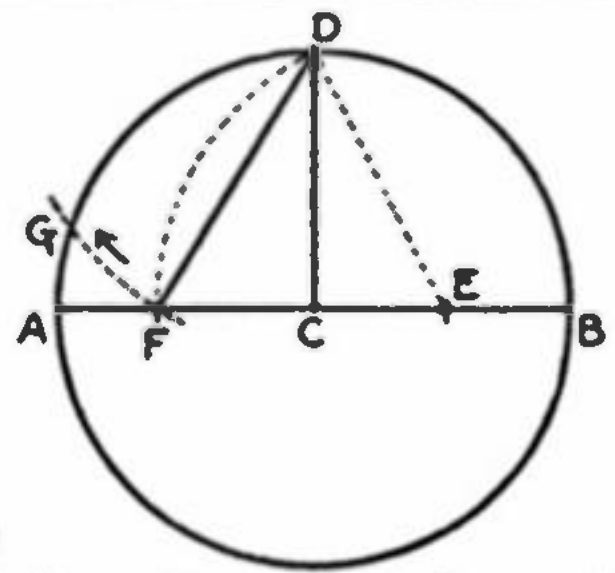
① Draw a circle; the diameter AB and perpendicular CD



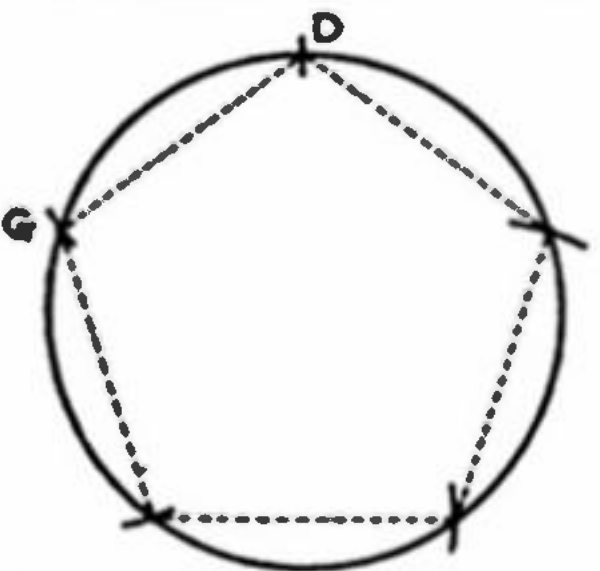
② Bisect CB in E



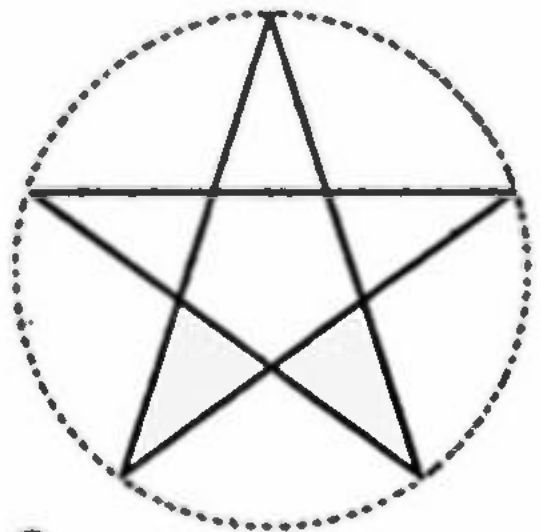
③ With center E describe arc from D to F



④ With radius DF describe arc cutting circle in G. DG will be $\frac{1}{5}$ of the circumference.

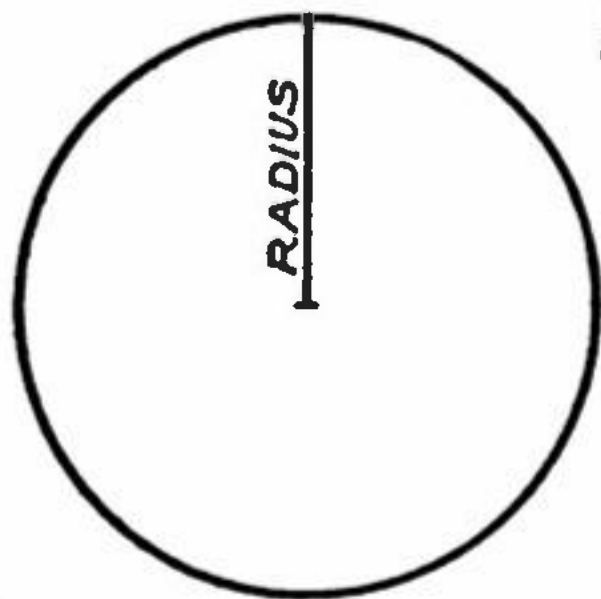


⑤ Set off DG on the circumference and join points by straight lines to form Pentagon

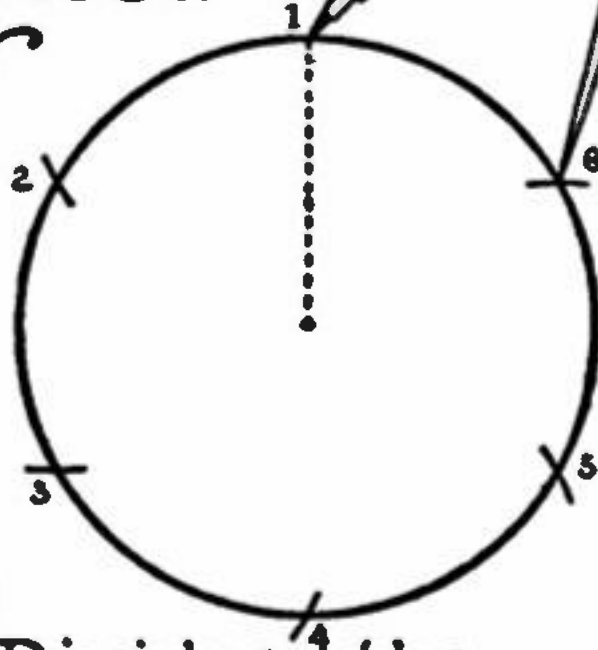


⑥ Or as above for a Five-pointed Star or Pentacle.

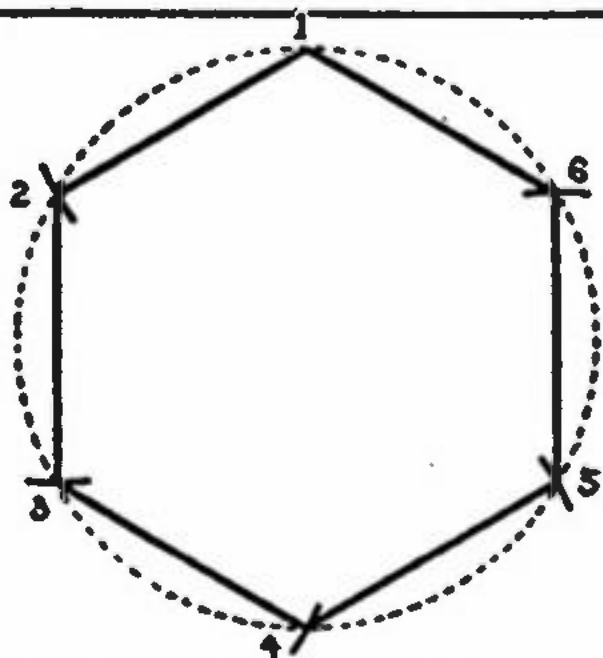
Drawing a Hexagon and a Six-Pointed Star



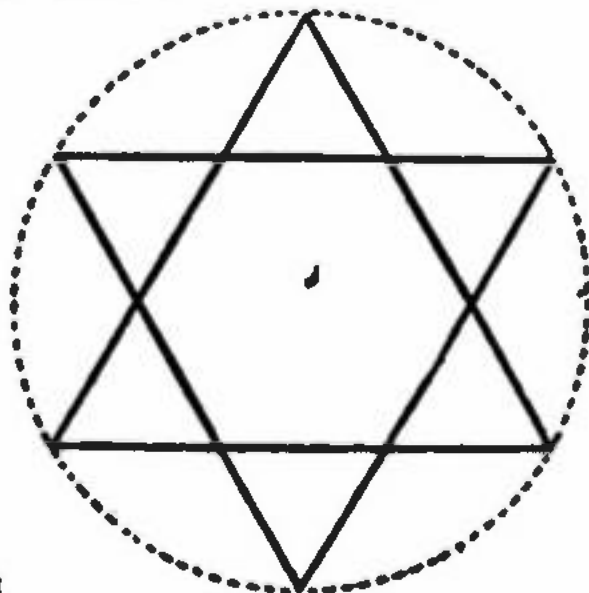
① The radius of a circle



② Divides the circumference into six equal parts.

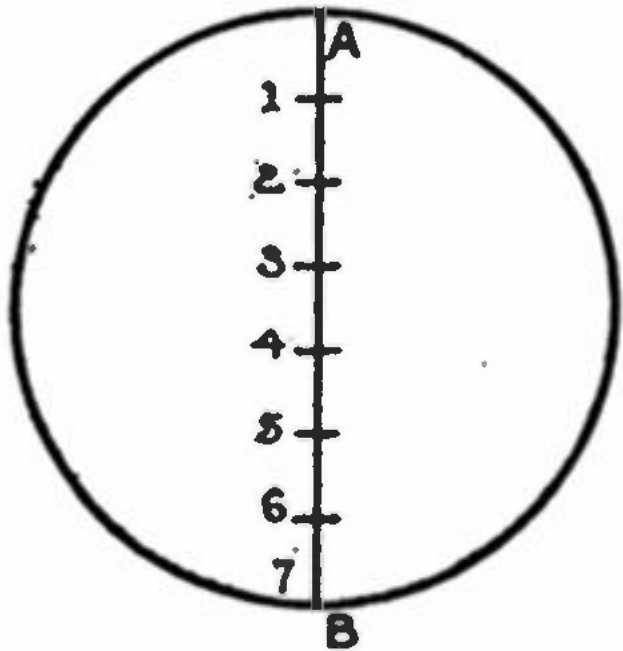


③ Straight lines connecting points form a hexagon.



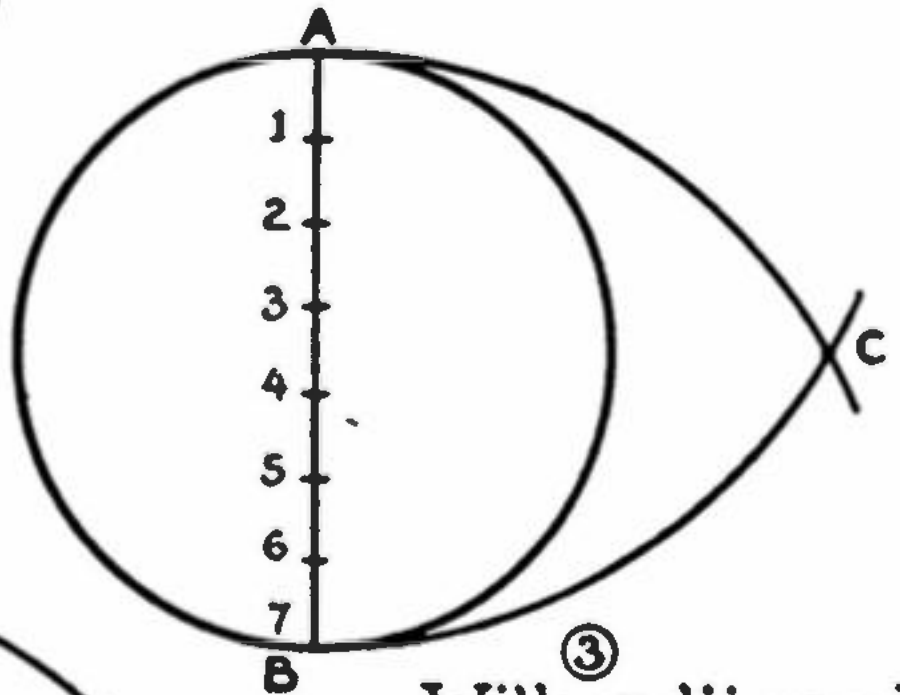
④ Or, as above, a six-pointed star or hexagram

Drawing a Regular Polygon- Say a Heptagon

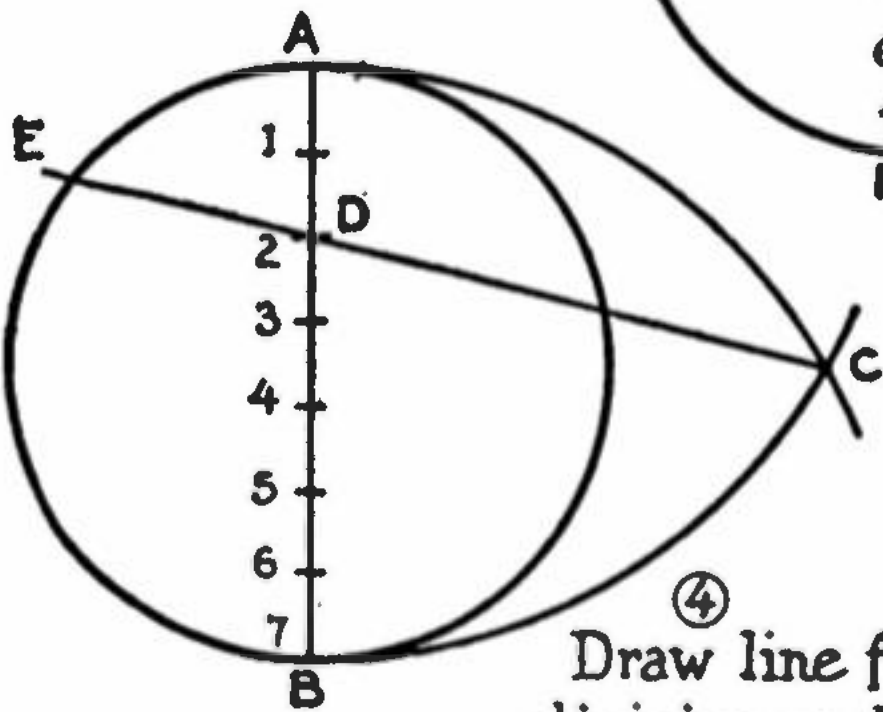


① Draw a circle and the diameter AB

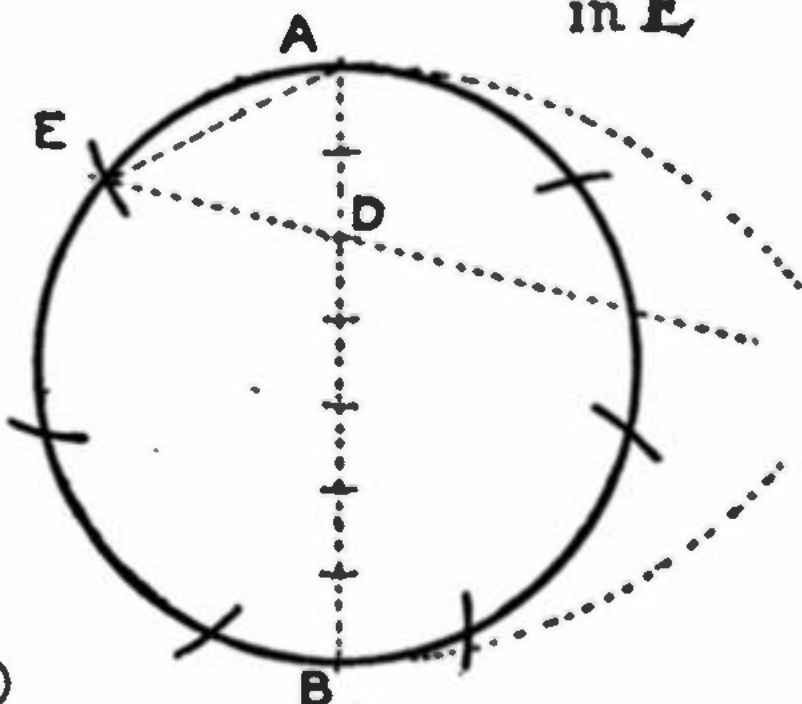
② Divide AB into seven equal parts



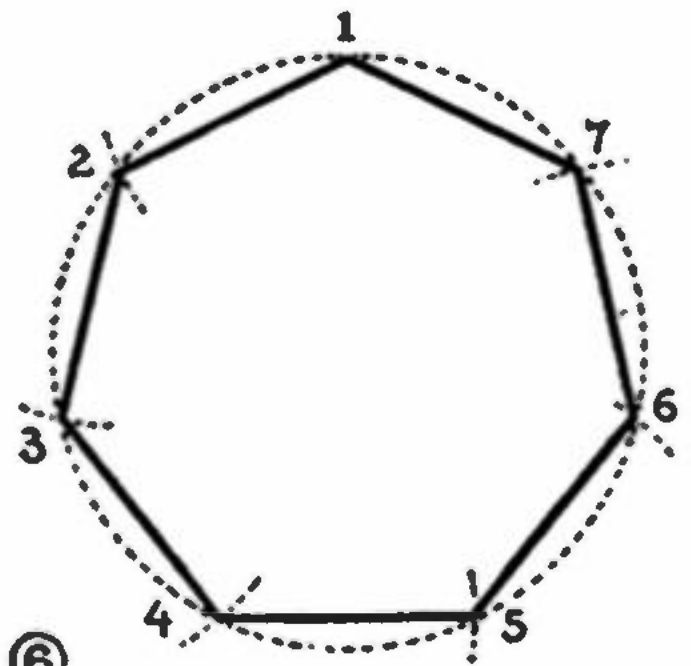
③ With radii equal to AB describe arcs from A and B cutting in C



④ Draw line from C through second division on diameter in D to circle in E

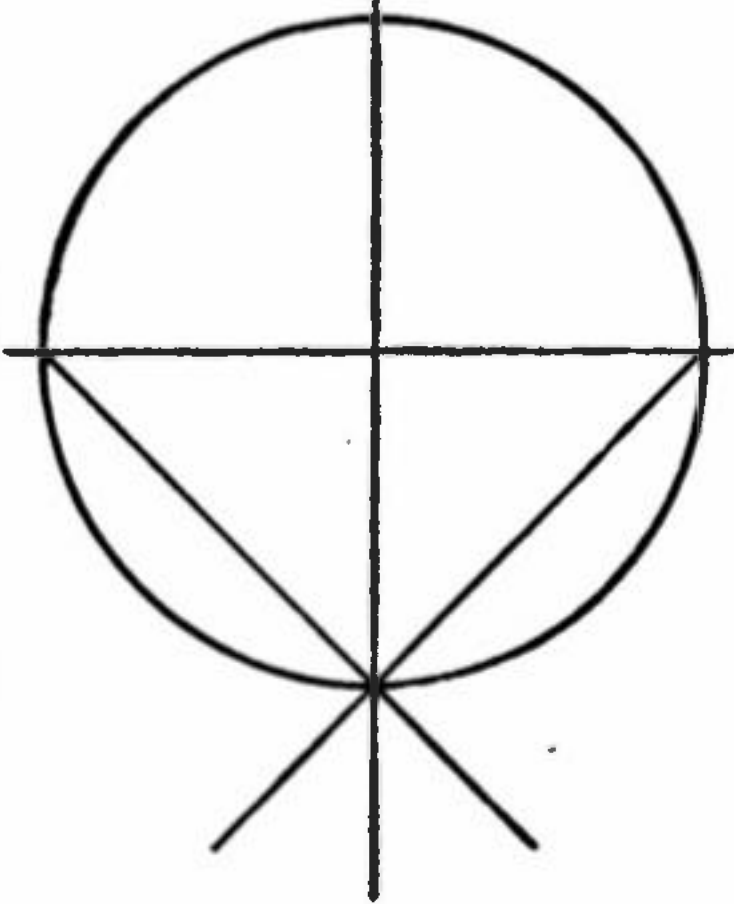
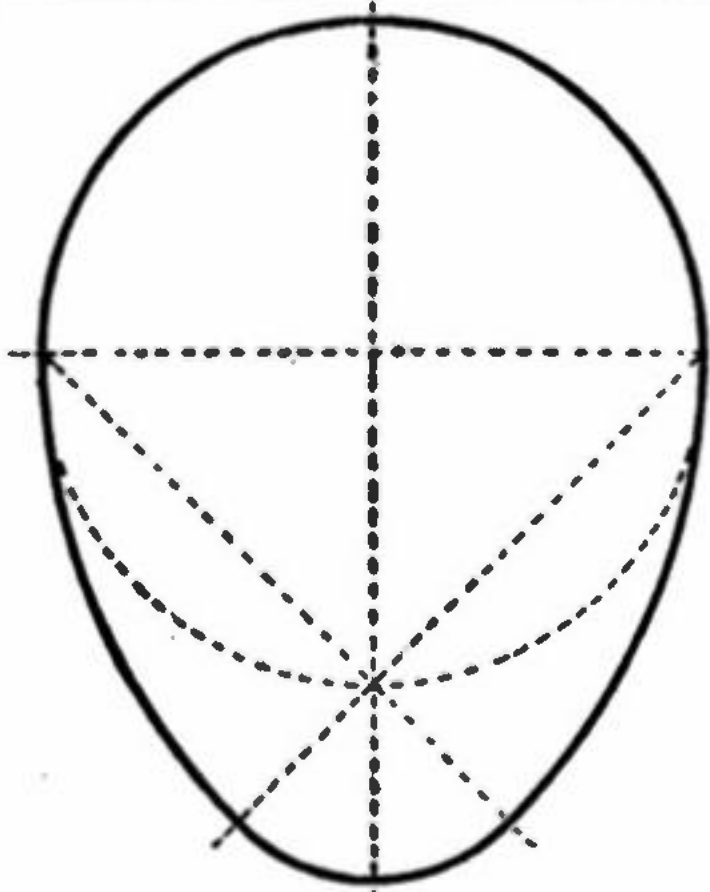


⑤ AE will be $\frac{1}{7}$ of circle
Mark AE on circumference

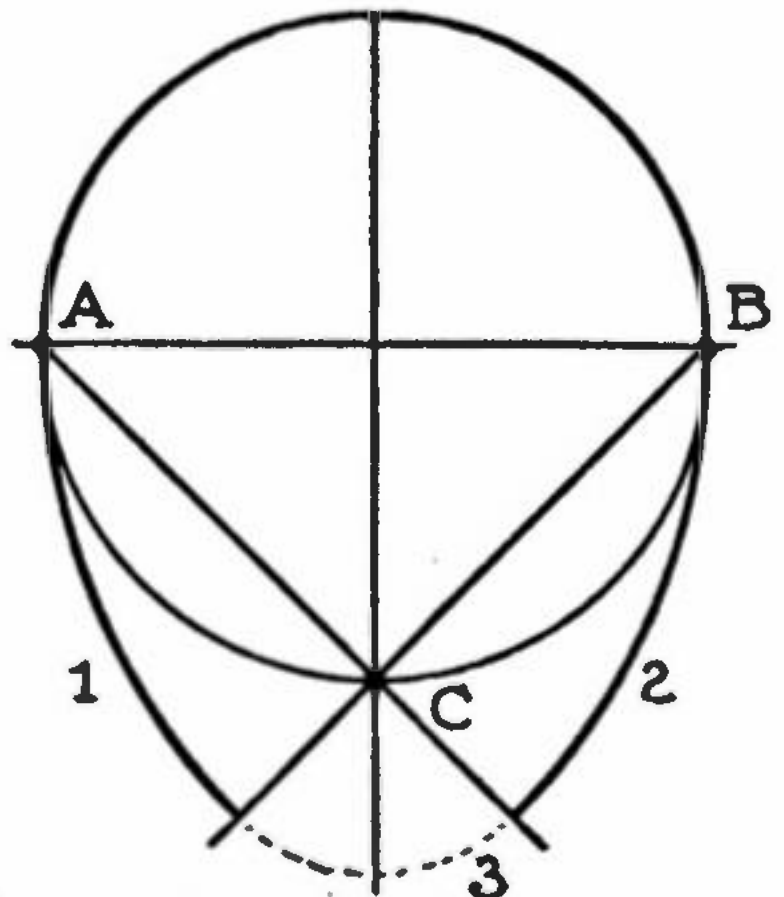


⑥ Joining the seven points thus obtained complete the heptagon

An Oval Drawn with the Compasses

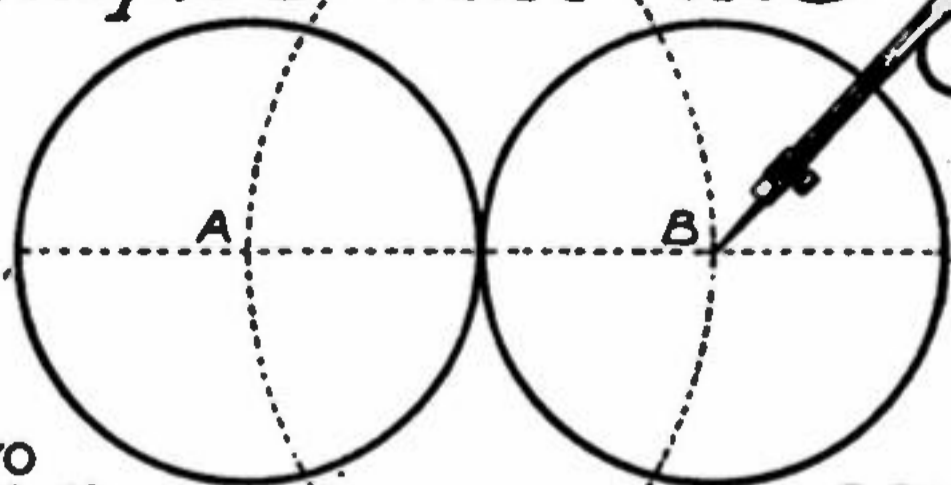


Draw a circle
and lines
as above



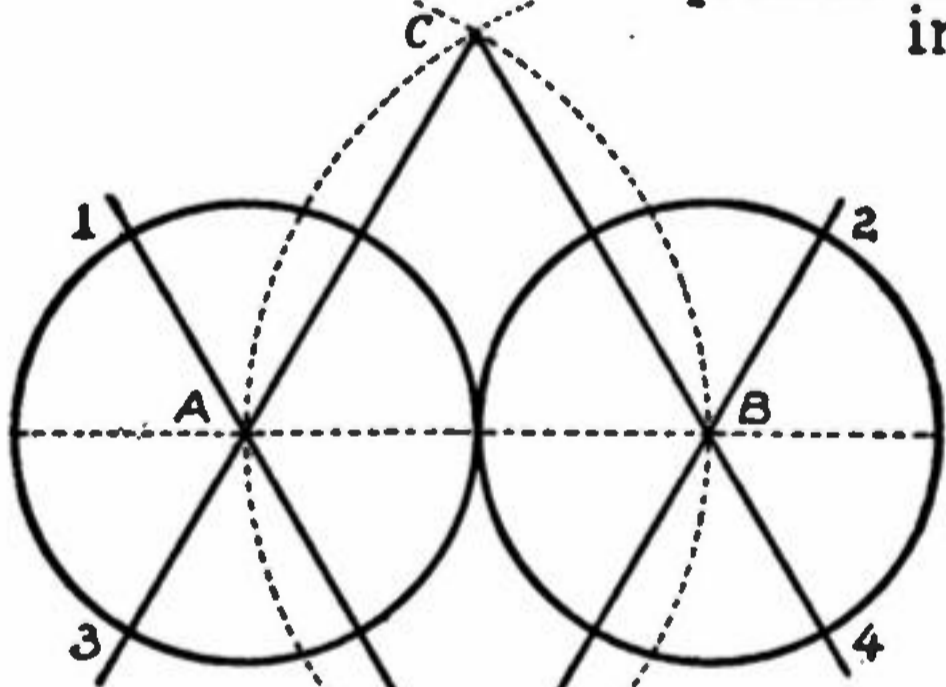
With A, B and C as centers
describe arcs in the
order as numbered

Drawing an Approximate Ellipse with the Compasses



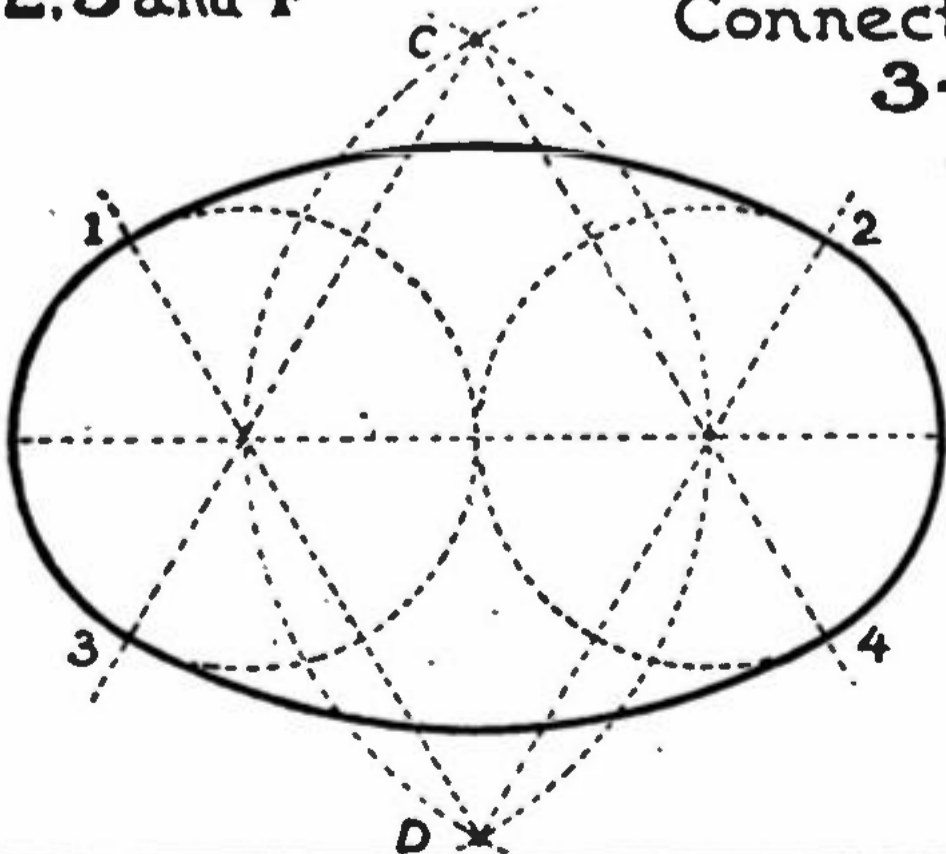
① Draw two circles of the same size touching each other

② With AB as radius describe arc from A and arc from B cutting in C and D

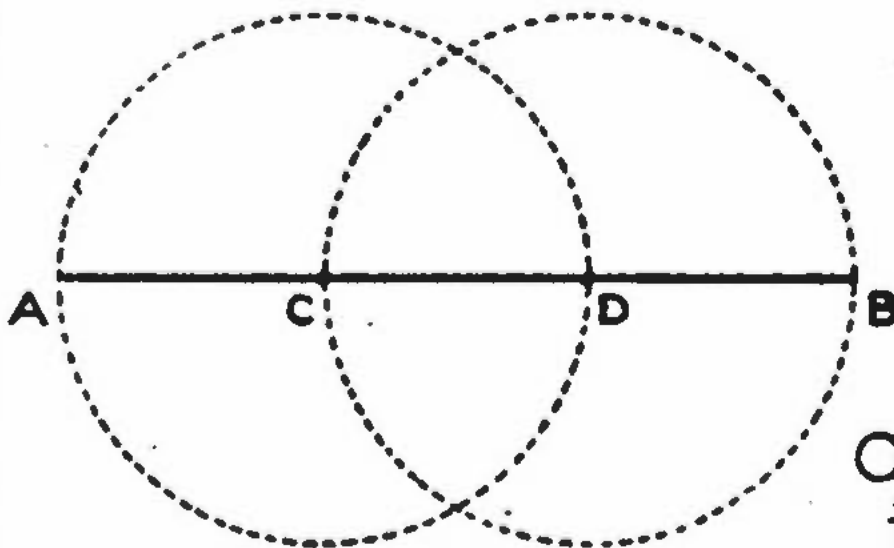


③ Draw straight lines as above cutting circles in 1, 2, 3 and 4

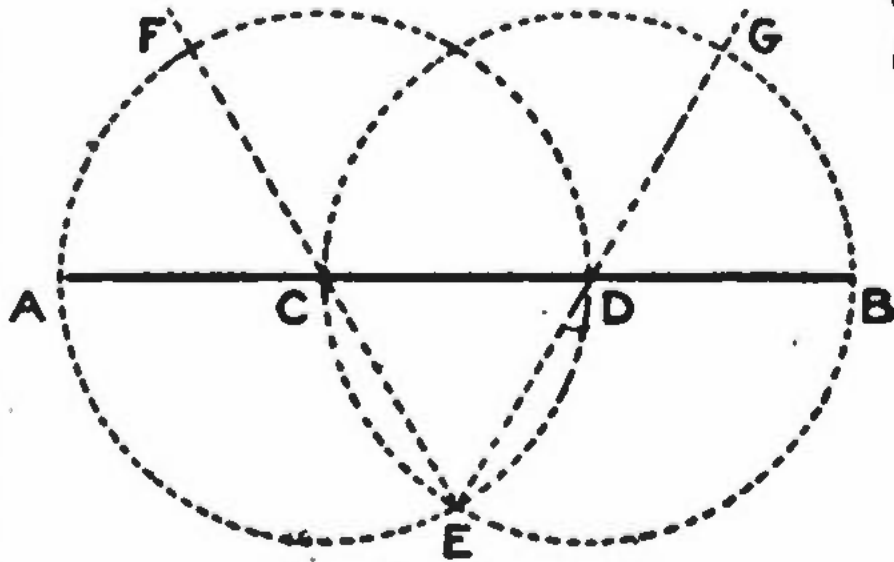
④ Connect 1-2 and 3-4 by arcs centering from D and C



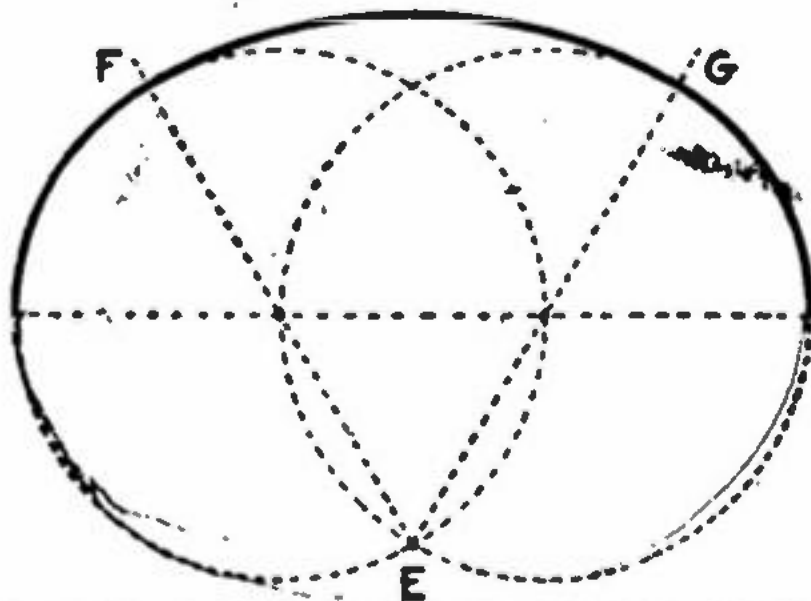
Arch of a Bridge Or One Half of an Approximate Ellipse



On a line divided into three parts describe circles from centers C and D.



From intersection E draw lines through C and D cutting circles in F and G

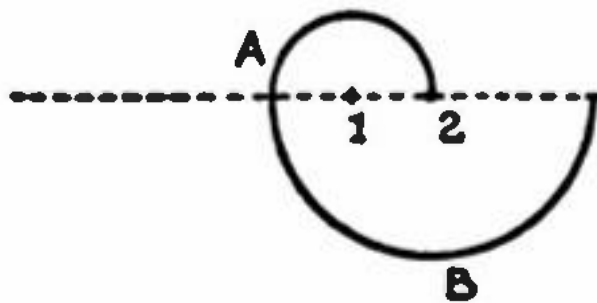


Join F and G by arc described from E

An Easy Way to Draw a Spiral

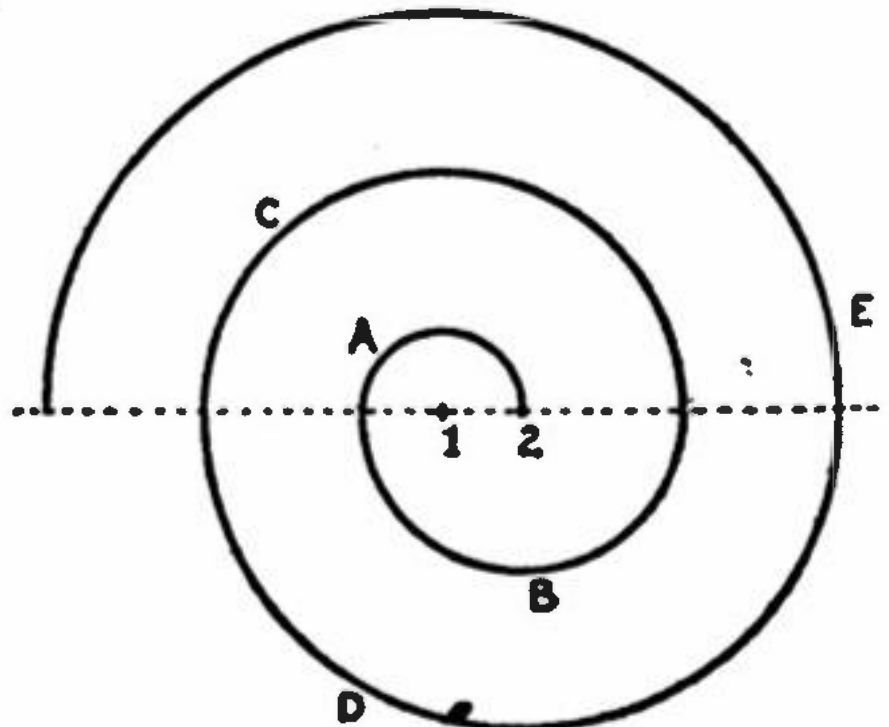


① Draw a small semicircle on a line



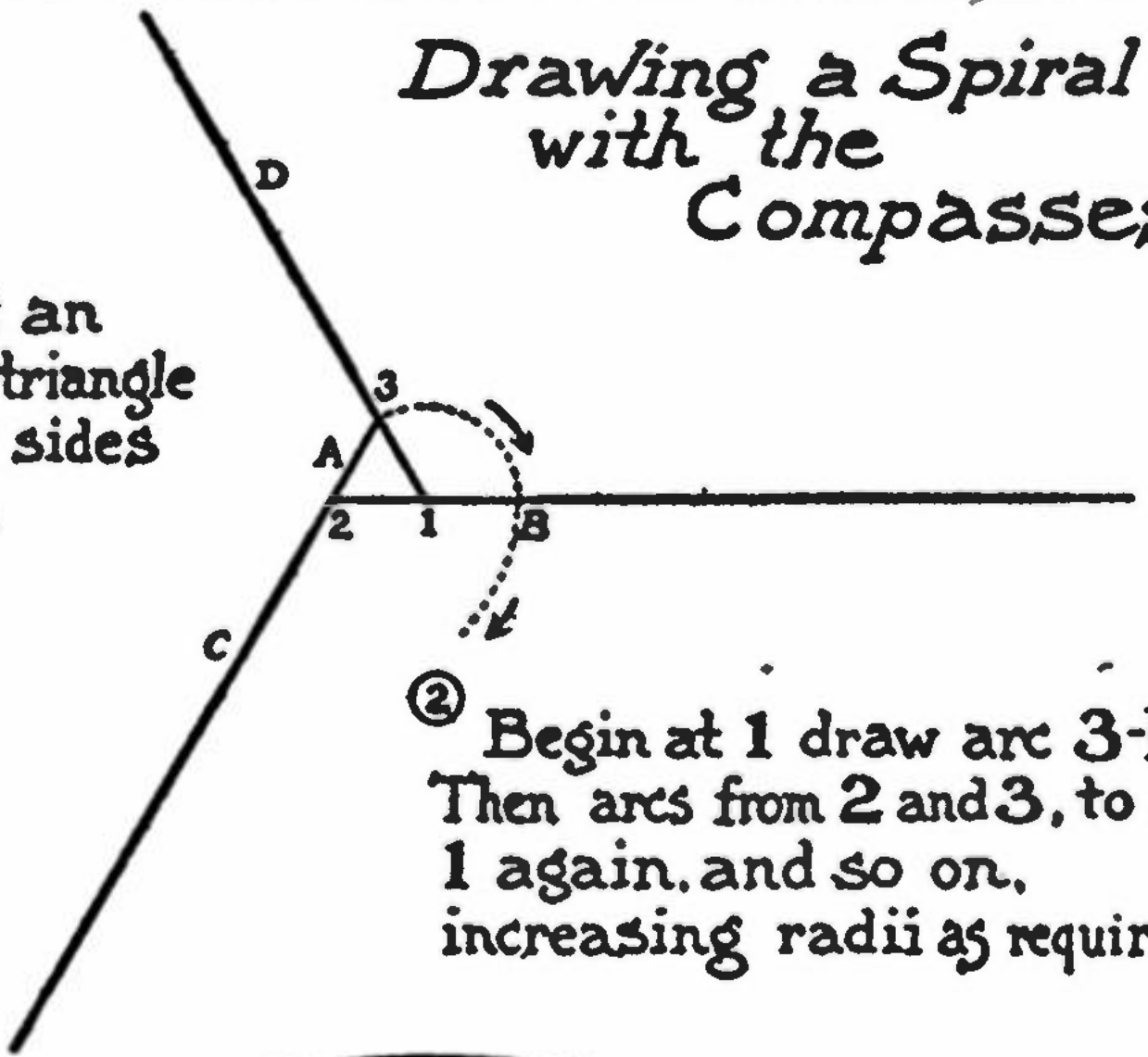
② From 2 as center describe semicircle B

③ Complete spiral by semicircles from centers 1 and 2 increasing radii as required

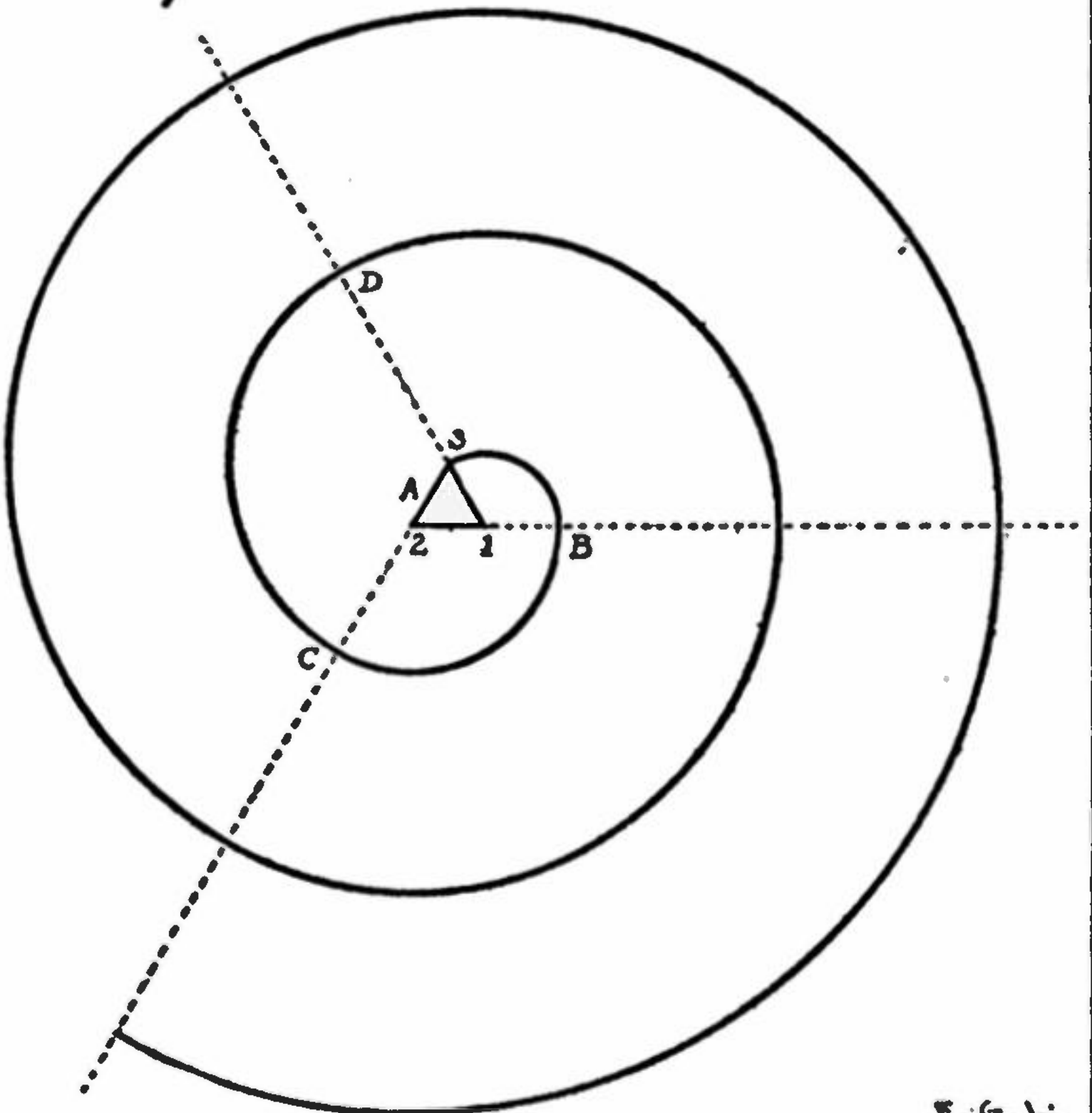


Drawing a Spiral with the Compasses

① Construct an equilateral triangle and extend sides as shown.

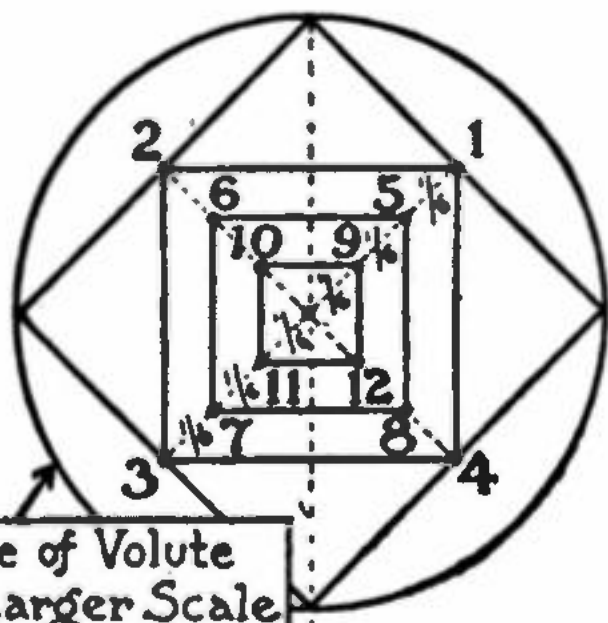


② Begin at 1 draw arc 3-B
Then arcs from 2 and 3, to
1 again, and so on,
increasing radii as required

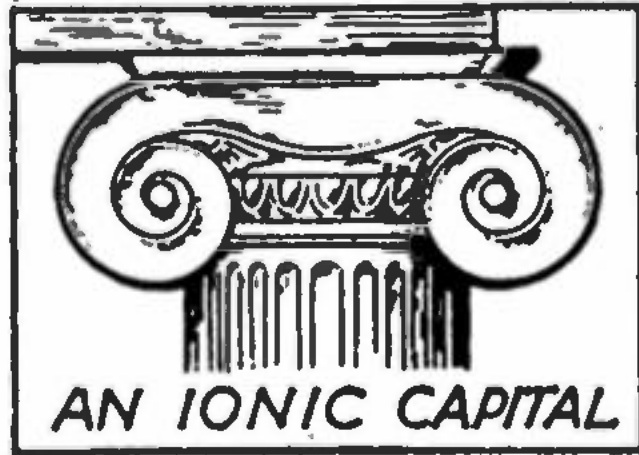


Drawing a Volute of an Ionic Capital

1
2
3
4
5
6
7
8
⊖ Height of Volute



Eye of Volute
On Larger Scale



AN IONIC CAPITAL

② In 5th division draw a circle with inscribed squares as shown above

③ Draw quadrants in order numbered from the angles of inscribed squares

