320 – Drafting & Sketching – Trogu – Cube section measurements
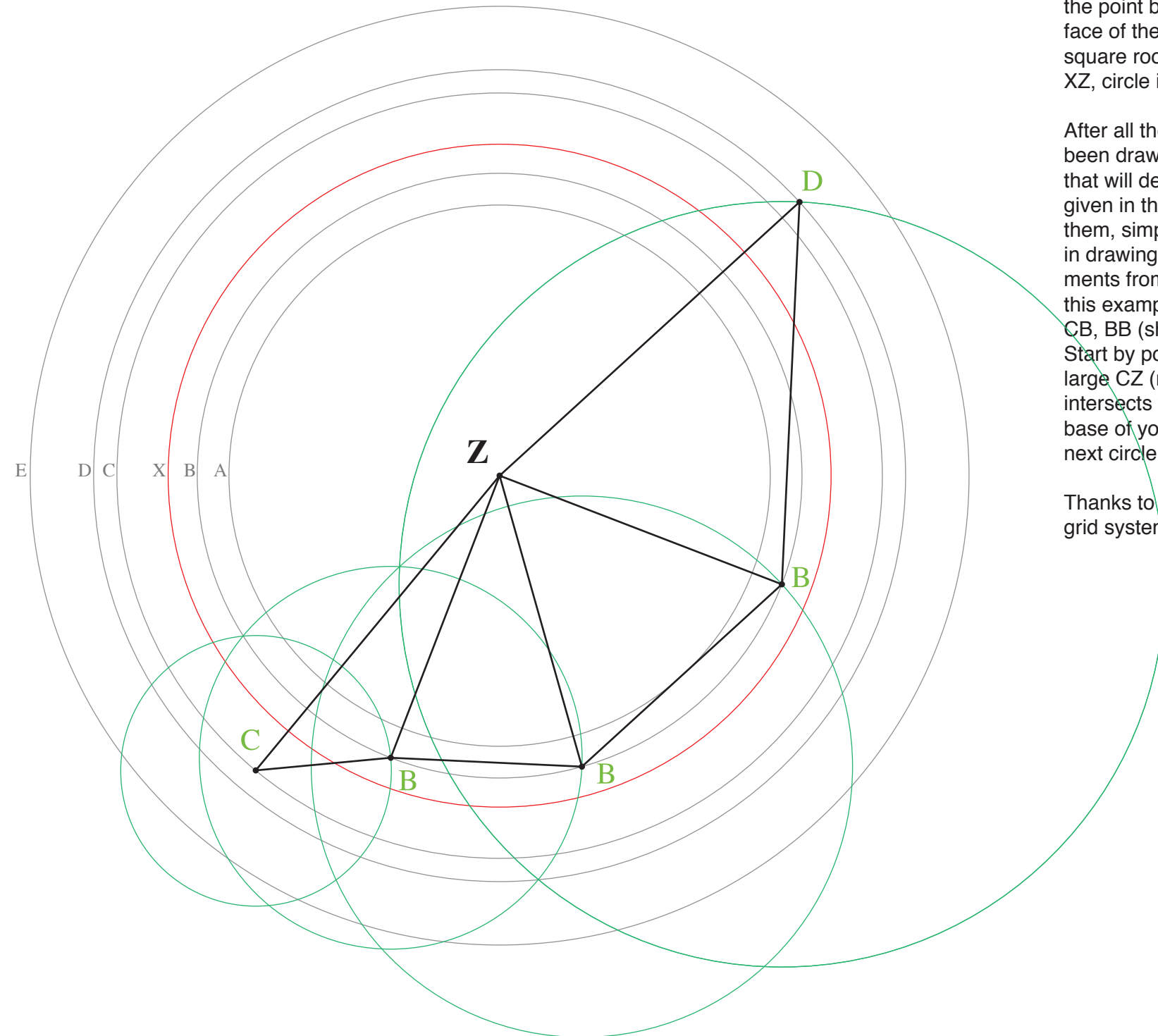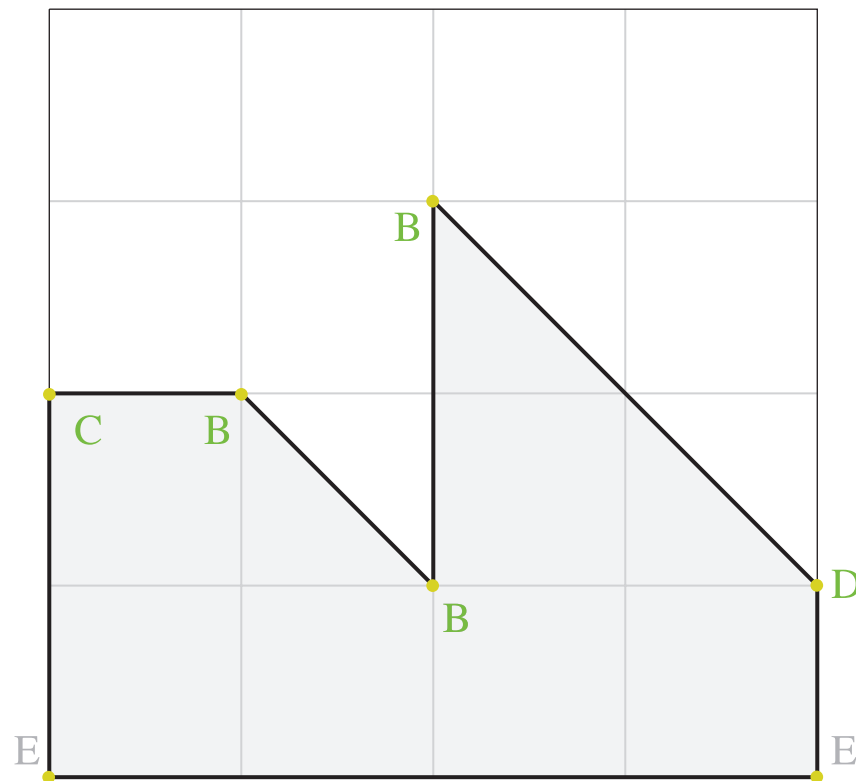
CB = 1
BB short = square root of 2: 1.4142135623731
BB long = 2
BD = square root of 8: 2.82842712474619
(the above are for the example below only, your design may differ)

AZ (radius) =   2.0
BZ (radius) =   2.234375
CZ (radius) =   2.828125
DZ (radius) =   3.0
EZ (radius) =   3.46875

XZ (radius) =   2.44948974278318
                        (square root of 6)

Using the compass and handout pages 4B and 5, transfer all the distances AZ, BZ, CZ, DZ, and EZ onto your master template drawing. Simply draw a ceries of concentric circles using those measurements. The common center is Z (center of the cube). Note: if you actually used the point between B and D on the face of the cube, that distance is the square root of 2 -- we are calling it XZ, circle in red.

After all the concentric circles have been drawn, all the possible points that will determine your shapes are given in this circular grid. To find them, simply draw the circles (green in drawing) by taking the measurements from the face of your cube. In this example they are (left to right) CB, BB (short), BB (long), and BD. Start by pointing the radius CB on the large CZ (radius) circle. Where it intersects the large circle B, that's the base of your first triangle. Draw the next circle BB (radius) and so on.

Thanks to Slate Werner for this clever grid system.

April 7, 2013

320 – Drafting & Sketching – Trogu
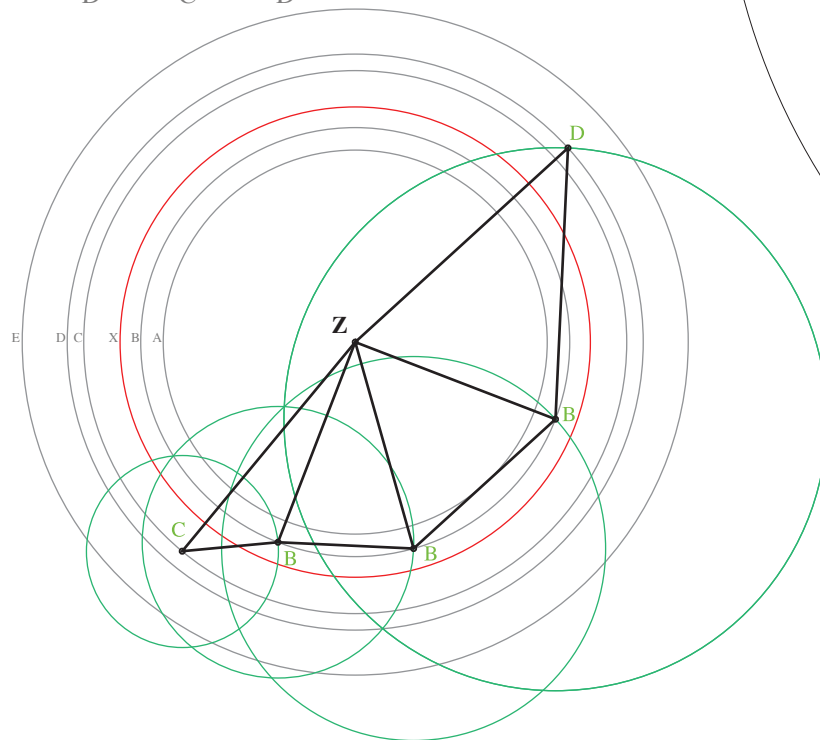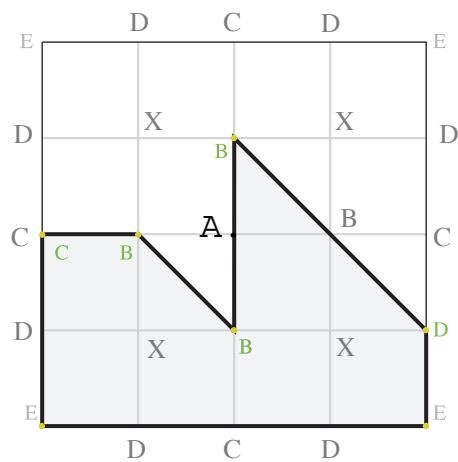## Cube section measurements

Half scale example below:

CB = 1
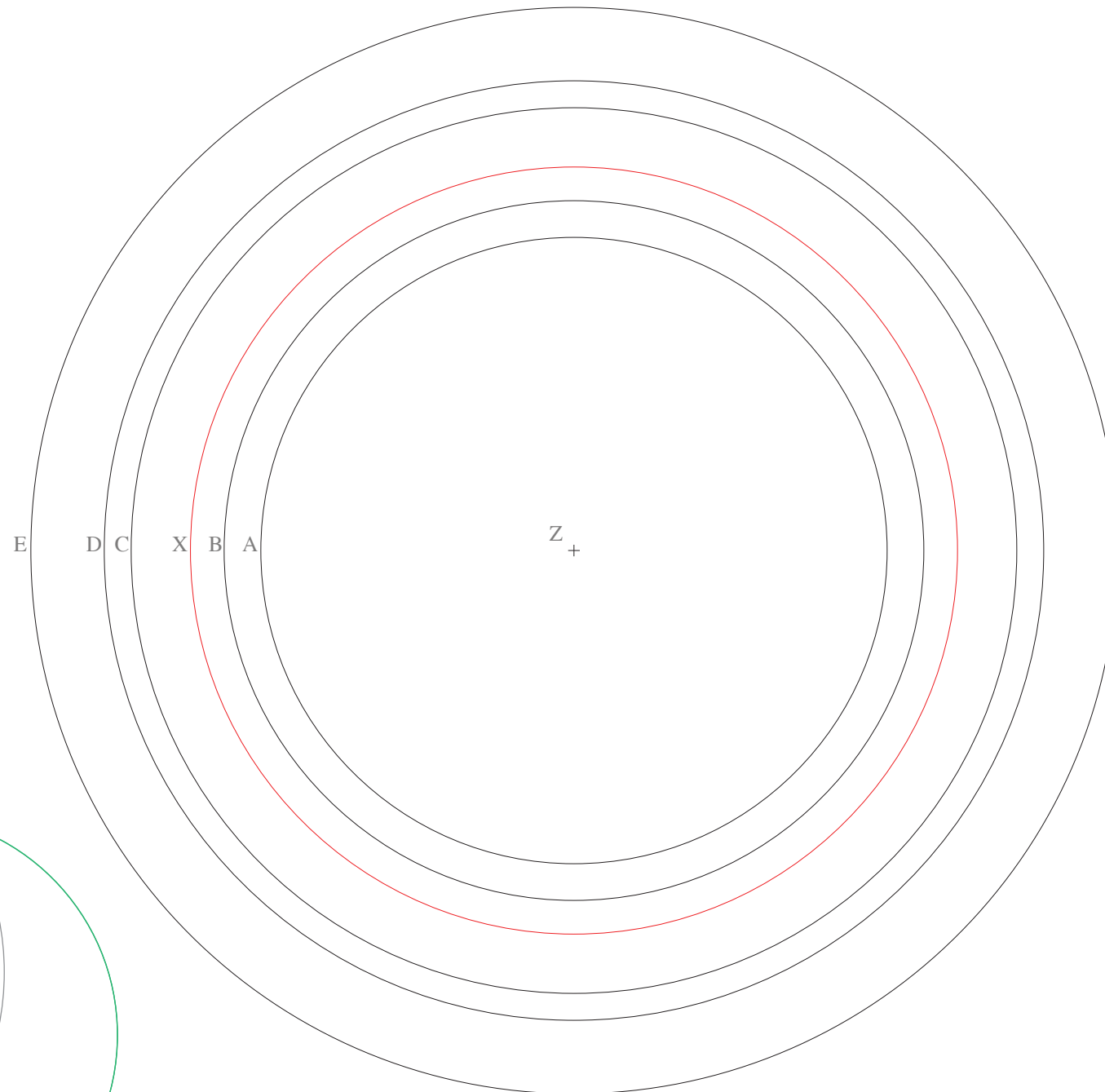BB short = square root of 2:   1.4142135623731
BB long = 2
BD = square root of 8:   2.82842712474619
(the above are for the example shown below at half
scale, your design may differ)

Use the grid below if desired. Draw your face section on the full size
square grid first. Mark your points appropriately

AZ (radius) =	2.0	diameter = 4.0	
BZ (radius) =	2.234375	diameter = 4.46875	
CZ (radius) =	2.828125	diameter = 5.65625	
DZ (radius) =	3.0	diameter = 6.0	
EZ (radius) =	3.46875	diameter = 6.9375	
XZ (radius) =	2.449489	diameter = 4.898979	
	(square root of 6)		

April 9, 2013

Slate's cube section chart

Using the compass and handout pages 4B and 5, transfer all
the distances AZ, BZ, CZ, DZ, and EZ onto your master
template drawing. Simply draw a ceries of concentric circles
using those measurements. The common center is Z (center
of the cube). Note: if you actually used the point between B
and D on the face of the cube, that distance is the square
root of 2 -- we are calling it XZ – that circle is shown in red.

After all the concentric circles have been drawn, all the
possible points that will determine your shapes are given in
this circular grid. To find them, simply draw the circles (green
in drawing at half scale) by taking the measurements from
the face of your cube. In the half size example they are (left
to right) CB, BB (short), BB (long), and BD.
Start by pointing the radius CB on the large CZ (radius)
circle. Where it intersects the large circle B, that's the base of
your first triangle. Draw the next circle BB (radius) and so on.

That example shown at half scale.You can use the full scale
grid to construct your cube parts.

Thanks to Slate Werner for this clever grid system.

NOTE: This 11x17 sheet MUST be printed at 100% in order
for it to work. Double check after printing to see if the square
below is exactly 4" x 4".