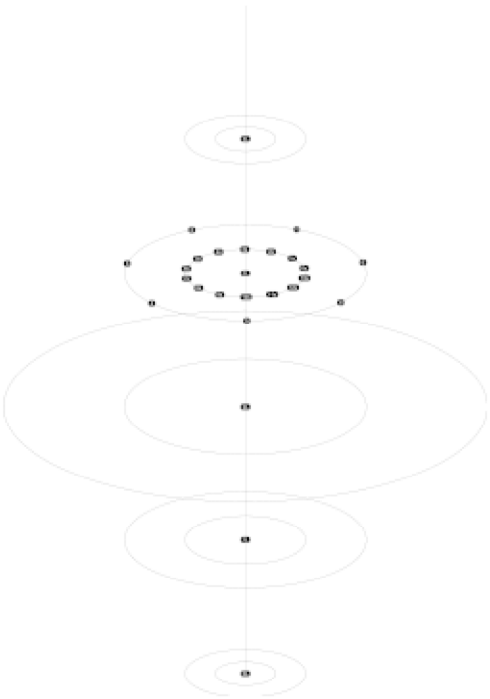
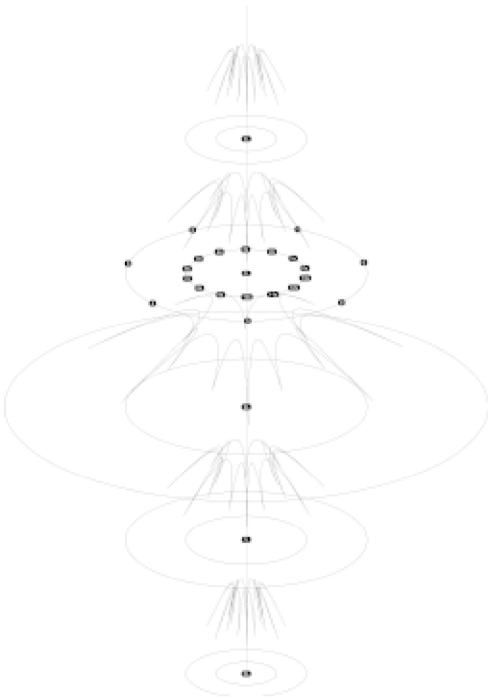

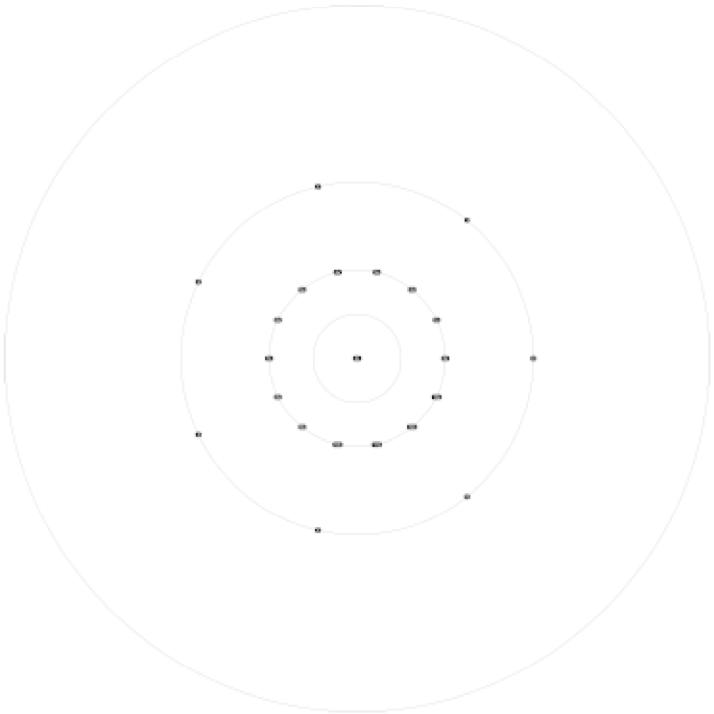
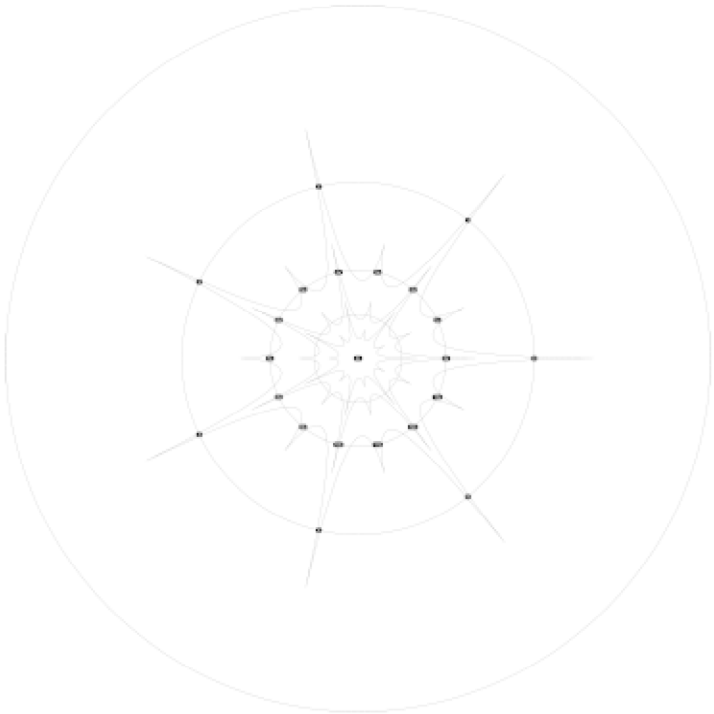

```
0   ########################################
1   ########################################
2
3   #ASSIGNMENT_2
4   #NAME: Maho Kobayashi
5
6   ########################################
7   ########################################
8
9   #INSTRUCTIONS:
10  ##All work should be done as 2D LINE WORK
11  ##Format as LETTER SIZE (8.5" X 11") in LANDSCAPE
12  ##Pay special attention to your LINE WIDTH
13  ##Submit as a SINGLE PDF FILE, not neccessarily 1 pg
14  ##First PNG/JPG in attachments will be cover image
15
16  ##############################
17
18  #DELIVERABLES:
19  ##PDF
20  ##code (saved in RTF = Rich Text Format)
21  ##both(?)should be uploaded to the Gallery Site
22
23  ########################################
24  ########################################
25
26  #RHINOSCRIPT REFERENCES:
27  #https://developer.rhino3d.com/
28
29  #KEY
30  ##** = added functions denoted in bold and asterisks
31  ##_IN = means it was included in the code
32
33  ##Input:
34  ##rs.GetObject()############rs.GetInteger()
35  ##rs,GetReal()##############rs.GetObjects()**
36
37  ##Create/Analyze:
38  ##rs.AddLine()_IN############rs.AddPoint()
39  ##rs.PointCoordinates()#####rs.AddCircle()_IN**
40  ##rs.AddCurve()_IN**
41
42  ##Line/Curve:
43  ##rs.CurveStartPoint()######rs.CurveMidPoint()
44  ##rs.CurveEndPoint()#########rs.DivideCurve()_IN**
45  ##rs.CurveAreaCentroid()####rs.CurveEditPoints()**
46
47  ##Transform:
48  ##rs.RotateObject()#########rs.ScaleObject()
49  ##rs.MoveObject()############rs.CopyObject()
50  ##rs.CopyObjects()###########rs.MoveObjects()**
51
52  ##############################
53
54  #PYTHON REFERENCES:
55
56  ##.append()**################.sort()**
57
```

```
##.reverse()***************.pop()**
##len()**

#REF: "bone structure: example 02" / 12:11 / rs.HideObject(ID)

########################################
########################################

#BRING IN LIBRARIES
import rhinoscriptsyntax as rs

##############################

#STEP_0: ADDING CENTER LINE
startpt_0 = [0,0,0]
endpt_0 = [0,0,6]
line_0 = rs.AddLine(startpt_0, endpt_0)

#STEP_1: DIVIDING LINE_0 INTO 7/ADD POINTS ON LINE
pts_line_0 = rs.DivideCurve(line_0,5,False,True)

#STEP_2: LABEL POINTS FROM STEP_1
#rs.AddTextDot('0L', pts_line_0[0])
#rs.AddTextDot('1L', pts_line_0[1])
#rs.AddTextDot('2L', pts_line_0[2])
#rs.AddTextDot('3L', pts_line_0[3])
#rs.AddTextDot('4L', pts_line_0[4])

##############################

#STEP_3: ADD BIGGER CIRCLES ON POINTS
circle_0 = rs.AddCircle(pts_line_0[0],0.5)
circle_1 = rs.AddCircle(pts_line_0[1],1)
circle_2 = rs.AddCircle(pts_line_0[2],2)
circle_3 = rs.AddCircle(pts_line_0[3],1)
circle_4 = rs.AddCircle(pts_line_0[4],0.5)

#STEP_4: DIVIDE CIRCLES/ ADD POINTS
pts_circle_0 = rs.DivideCurve(circle_0,7,False,True)
pts_circle_1 = rs.DivideCurve(circle_1,7,False,True)
pts_circle_2 = rs.DivideCurve(circle_2,7,False,True)
pts_circle_3 = rs.DivideCurve(circle_3,7,False,True)
pts_circle_4 = rs.DivideCurve(circle_4,7,False,True)

#STEP_5: LABEL POINTS FROM STEP_1
#NOTE: Since I know they order for the numbers of each circle
are the same
#######I can just keep the numbers for one of the circles
#######and just "#" or delete the rest out

#BIG C 3
#rs.AddTextDot('0', pts_circle_3[0])
#rs.AddTextDot('1', pts_circle_3[1])
#rs.AddTextDot('2', pts_circle_3[2])
#rs.AddTextDot('3', pts_circle_3[3])
#rs.AddTextDot('4', pts_circle_3[4])
#rs.AddTextDot('5', pts_circle_3[5])

```

```
113 #rs.AddTextDot('6', pts_circle_3[6])
114
115 ##############################
116
117 #STEP_6: ADD SMALLER CIRCLES ON POINTS FROM STEP_
118 circle_0s = rs.AddCircle(pts_line_0[0],0.25)
119 circle_1s = rs.AddCircle(pts_line_0[1],0.5)
120 circle_2s = rs.AddCircle(pts_line_0[2],1)
121 circle_3s = rs.AddCircle(pts_line_0[3],0.5)
122 circle_4s = rs.AddCircle(pts_line_0[4],0.25)
123
124 #STEP_7: DIVIDE CIRCLES/ ADD POINTS
125 pts_circle_0s = rs.DivideCurve(circle_0s,14,False,True)
126 pts_circle_1s = rs.DivideCurve(circle_1s,14,False,True)
127 pts_circle_2s = rs.DivideCurve(circle_2s,14,False,True)
128 pts_circle_3s = rs.DivideCurve(circle_3s,14,False,True)
129 pts_circle_4s = rs.DivideCurve(circle_4s,14,False,True)
130
131 #STEP_9: LABEL POINTS FROM STEP_1
132 #NOTE: Since I know they order for the numbers of each circle
    are the same
133 #######I can just keep the numbers for one of the circles
134 #######and just "#" or delete the rest out
135
136 #SMALL C 3
137 #rs.AddTextDot('0s', pts_circle_3s[0])
138 #rs.AddTextDot('1s', pts_circle_3s[1])
139 #rs.AddTextDot('2s', pts_circle_3s[2])
140 #rs.AddTextDot('3s', pts_circle_3s[3])
141 #rs.AddTextDot('4s', pts_circle_3s[4])
142 #rs.AddTextDot('5s', pts_circle_3s[5])
143 #rs.AddTextDot('6s', pts_circle_3s[6])
144 #rs.AddTextDot('7s', pts_circle_3s[7])
145 #rs.AddTextDot('8s', pts_circle_3s[8])
146 #rs.AddTextDot('9s', pts_circle_3s[9])
147 #rs.AddTextDot('10s', pts_circle_3s[10])
148 #rs.AddTextDot('11s', pts_circle_3s[11])
149 #rs.AddTextDot('12s', pts_circle_3s[12])
150 #rs.AddTextDot('13s', pts_circle_3s[13])
151
152 ##############################
153
154 #STEP_10: CREATE NEW SHAPES WITHIN THE CIRCLES USING POINTS FROM
    STEP_4
155 #REF: "bone structure: example 03" / 6:22 / "rs.AddCurve"
156 #          ex: rs.AddCurve(ptGUID, pts[0], pts[1], ptGUID)
157 #NOTE: changed to tuples[] instead of list()
158
159 star_0 = rs.AddCurve([pts_circle_0[0], pts_line_0[1], pts_circle_0s[1
    ], pts_line_0[1], pts_circle_0[1], pts_line_0[1], pts_circle_0s[3],
    pts_line_0[1], pts_circle_0[2], pts_line_0[1],pts_circle_0s[5], pts_line_0
    [1], pts_circle_0[3], pts_line_0[1], pts_circle_0s[7], pts_line_0[1],
      pts_circle_0[4], pts_line_0[1], pts_circle_0s[9], pts_line_0[1], pts_circle_0
    [5], pts_line_0[1], pts_circle_0s[11], pts_line_0[1], pts_circle_0[6]
    , pts_line_0[1], pts_circle_0s[13], pts_line_0[1], pts_circle_0[0]],3
    )
160
161
```

```
161 #NOTES: to prevent errors, wrote it broken up into smaller bits
    first
162 #(pts_circle_0[0], pts_line_0[1], pts_circle_0s[1],
163 ###
164 #  pts_line_0[1], pts_circle_0[1],
165 #  pts_line_0[1], pts_circle_0s[3],
166 ###
167 #  pts_line_0[1], pts_circle_0[2],
168 #  pts_line_0[1],pts_circle_0s[5],
169 ###
170 #  pts_line_0[1], pts_circle_0[3],
171 #  pts_line_0[1], pts_circle_0s[7],
172 ###
173 #  pts_line_0[1], pts_circle_0[4],
174 #  pts_line_0[1], pts_circle_0s[9],
175 ###
176 #  pts_line_0[1], pts_circle_0[5],
177 #  pts_line_0[1], pts_circle_0s[11],
178 ###
179 #  pts_line_0[1], pts_circle_0[6],
180 #  pts_line_0[1], pts_circle_0s[13],
181 ###
182 #  pts_line_0[1], pts_circle_0[0],
183
184 star_1 = rs.AddCurve([pts_circle_1[0], pts_line_0[2], pts_circle_1s[1
    ], pts_line_0[2], pts_circle_1[1], pts_line_0[2], pts_circle_1s[3],
    pts_line_0[2], pts_circle_1[2], pts_line_0[2],pts_circle_1s[5], pts_line_0
    [2], pts_circle_1[3], pts_line_0[2], pts_circle_1s[7], pts_line_0[2],
      pts_circle_1[4], pts_line_0[2], pts_circle_1s[9], pts_line_0[2], pts_circle_1
    [5], pts_line_0[2], pts_circle_1s[11], pts_line_0[2], pts_circle_1[6]
    , pts_line_0[2], pts_circle_1s[13], pts_line_0[2], pts_circle_1[0]],3
    )
185 star_2 = rs.AddCurve([pts_circle_2[0], pts_line_0[3], pts_circle_2s[1
    ], pts_line_0[3], pts_circle_2[1], pts_line_0[3], pts_circle_2s[3],
    pts_line_0[3], pts_circle_2[2], pts_line_0[3],pts_circle_2s[5], pts_line_0
    [3], pts_circle_2[3], pts_line_0[3], pts_circle_2s[7], pts_line_0[3],
      pts_circle_2[4], pts_line_0[3], pts_circle_2s[9], pts_line_0[3], pts_circle_2
    [5], pts_line_0[3], pts_circle_2s[11], pts_line_0[3], pts_circle_2[6]
    , pts_line_0[3], pts_circle_2s[13], pts_line_0[3], pts_circle_2[0]],3
    )
186 star_3 = rs.AddCurve([pts_circle_3[0], pts_line_0[4], pts_circle_3s[1
    ], pts_line_0[4], pts_circle_3[1], pts_line_0[4], pts_circle_3s[3],
    pts_line_0[4], pts_circle_3[2], pts_line_0[4],pts_circle_3s[5], pts_line_0
    [4], pts_circle_3[3], pts_line_0[4], pts_circle_3s[7], pts_line_0[4],
      pts_circle_3[4], pts_line_0[4], pts_circle_3s[9], pts_line_0[4], pts_circle_3
    [5], pts_line_0[4], pts_circle_3s[11], pts_line_0[4], pts_circle_3[6]
    , pts_line_0[4], pts_circle_3s[13], pts_line_0[4], pts_circle_3[0]],3
    )
187 star_4 = rs.AddCurve([pts_circle_4[0], pts_line_0[5], pts_circle_4s[1
    ], pts_line_0[5], pts_circle_4[1], pts_line_0[5], pts_circle_4s[3],
    pts_line_0[5], pts_circle_4[2], pts_line_0[5],pts_circle_4s[5], pts_line_0
    [5], pts_circle_4[3], pts_line_0[5], pts_circle_4s[7], pts_line_0[5],
      pts_circle_4[4], pts_line_0[5], pts_circle_4s[9], pts_line_0[5], pts_circle_4
    [5], pts_line_0[5], pts_circle_4s[11], pts_line_0[5], pts_circle_4[6]
    , pts_line_0[5], pts_circle_4s[13], pts_line_0[5], pts_circle_4[0]],3
    )
188
189
```

```
189 ##############################
190
191 #STEP_11: HIDING CIRCLE_0 - CIRCLE_4
192 rs.HideObject(circle_0)
193 rs.HideObject(circle_1)
194 rs.HideObject(circle_2)
195 rs.HideObject(circle_3)
196 rs.HideObject(circle_4)
197
198 #STEP_12: HIDING CIRCLE_0s - CIRCLE_4s
199 rs.HideObject(circle_0s)
200 rs.HideObject(circle_1s)
201 rs.HideObject(circle_2s)
202 rs.HideObject(circle_3s)
203 rs.HideObject(circle_4s)
204
205 #STEP_13: HIDING LINE_0
206 rs.HideObject(line_0)
207
208 ######################################
209 ######################################
210
```