

Homework 3: From Extended Syllabus Geometry Section

For this problem semi-regular tilings needed to be found – that is combinations of DIFFERENT polygons (not all triangles or not all squares) that would come together at a point to make 360 degrees (i.e. to come “full circle”)

NUMBER AND TYPE OF POLYGONS USED	SUM OF ANGLES AT EACH INTERSECTION
2 octagons and 1 square	$2 \times 135 + 90 = 270 + 90 = 360$
3 triangles and 2 quadrilaterals	$(3 \times 60) + (2 \times 90) = 180 + 180 = 360$
2 Quadrilaterals & 1 triangle & 1 Hexagon	$(2 \times 90) + 120 + 60 = 360$
2 Pentagons & 1 decagon	$(2 \times 108) + 144 = 216 + 144 = 360$
2 triangles & 1 quadrilateral & 1 dodecagon	$(60 \times 2) + 90 + 150 = 120 + 240 = 360$
2 dodecagon & 1 triangle	$(150 \times 2) + 60 = 300 + 60 = 360$
1 Quadrilateral & 1 Hexagon & 1 dodecagon	$90 + 120 + 150 = 360$

An example of one of the many very well-done tessellations – see blog for others:

