MTH 385   2022-01-26 Worksheet

Exercise 1. *Define the following terms: (convex) polygon, (convex) polyhedron, vertex, edge, face.*

Exercise 2. *What is a* regular polyhedron*?*

Exercise 3. *What kind of polygons can be faces of regular polyhedra? Why?*

Exercise 4. *How many triangles can meet at a vertex of a regular polyhedron? Why?*

Exercise 5. *How many quadrilaterals can meet at a vertex of a regular polyhedron? Why?*

Exercise 6. *How many pentagons can meet at a vertex of a regular polyhedron? Why?*

Exercise 7. *How many hexagons can meet at a vertex of a regular polyhedron? Why?*

Exercise 8. *Abstractly construct a complete list of (potential) regular polyhedra based on your answers to the previous questions.*

Exercise 9. *Complete the following table.*

Regular Polyhedron	Vertices (V)	Edges (E)	Faces (F)	V − E + F

Exercise 10. *Make observations about the table.*