Feedback 5-6

Most of this assignment was straightforeward and most of students did it very well.

- **Question 5.2:**
  - This question follows very quickly from the idea of locus of points...
  - More advanced students also understand that one should show that the the perpendicular bisictor on a sphere is still the locus of points ... (as the proof is exactly the same as for $\mathbb{E}^2$, I have not really required this for the correct solution).
- **Question 5.4:**
  - Many solutions said: “consider a triangle with three right angles, then ...” Why does this triangle exist? The answer may be given in coordiantes or by a picture (as we can see it in every corner of every room).
  - It was very tempting to use Bipolar Theorem and to get a relation for sides/angles of a self-polar triangle. However, it only gives $a = \pi - \alpha$, which is not clear how to use.
  - So, afterall it was easier just to construct the triangle point by point (uniquely up to isometry). One can also collect all right angles (or sides) while doing the construction and apply AAA or SSS rule of congruence of triangles.
- **Question 5.8:**
  - It is clear one needs to apply a furmula here and almost clear which one. The problem is that one needs to compute correctly:
    - use a circle to check the values of sine and cosine!
    - pay attention to the signes: cosine of an obtuse angle should be negative!
    - you don’t need the calculator for the Geometry course (and it is forbidden for use at the exam).
    - every year a couple of very strong students looses marks for doing silly mistakes working with sines and cosines. So, check your solutions, it is a dangerous point.
- **Question 6.2:**
  - Most students solved the question by subdividing the polygon into triangles. For me, as for the reader of your solutions, it was much easier to understand that you are doing the right thing when I also had a diagram.
  - So, whenever you can clarify your solution by a diagram, **draw the diagram!**
  - Some students decided to generalise the digon method we used for triangles. That nicely worked! (but was not as quick as to cut the shape into triangles).