Isometries   **John Waczak**

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11A

b. Questions

I thought this section was pretty straight forward. I had not seen the alternative definition of the cross product, $|x \times y| = \sqrt{|x|^2|y|^2 - \langle x, y \rangle^2}$, before so that was cool and I think the idea of intrinsics and forms is pretty interesting. I was a little confused by the example given for the cylinder surface patch. I don't see why the final lines follows from the fact that $d\sigma_q$ preserves orthonormal bases.

c. Reflections

I am curious what the precise definition of form is and what other kinds of forms exist other than the norm-squared. I particularly found the last section on the volume of interior interesting as I also initially expected the volume might be intrinsic.

d. Time

I took roughly 30 minutes to reread this section.