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We continue on our journey through graph theory by turning to planar graphs. One thing you need to know is that all regular polyhedra are planar, so you can apply Euler's formula to any regular polyhedron. This may help with Problem 9, which is basically an exercise in tricky high school algebra.

For Problem 10, it might help to know that you can represent a torus as a rectangle with the top identified to the bottom and the right side to the left. The first action creates a tube and the second a donut or torus. So when you go out of the rectangle at the top, you come in at the same right/left on the bottom. Similarly for going side to side.