

HOMEWORK 7

MATH 253A

16.3.35

Part (b) has a task and a question. Don't forget to do both.

16.5.37

The point of this question is to emphasize an idea I wrote in the reading guide, namely that curl tells you how much you are spinning and what axis you're spinning about. If you're at the center of the disk, you don't move, but the way you are facing changes, rotating about the z -axis. Even if you're further out in the disk, although you move, the direction you are facing changes in the exact same way, rotating about the z -axis.

For that reason, you expect $\text{curl } \mathbf{v}$ to point in the z direction and to be proportional to how fast you're spinning. In this problem, you verify that that is indeed the case.