

Perpendicularity and Approximations

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1 Goals

The goals of this activity are:

1. To help students understand the importance of perpendicular vectors.

2 Materials

For this activity you will need:

1. Handouts

3 Instructions

This activity will take approximately 10 minutes.

1. Group students into pairs, give students handouts, and explain the goals of the activity. Emphasize that students need to guess answers very quickly, and that accuracy is not the goal.
2. At the end, students can share their estimates with the entire class to be recorded on a white board.
3. Ask students to discuss any observations they have about their estimates.

4 Tips

1. At this point in the class, students often have not completely understood how linear combinations work, so this also tends to be a good way to reiterate the concept.
2. In the discussion, we would like to talk about how it is easier to estimate a vector as a linear combination of perpendicular vectors.