# Lab 1
## Physics I
## September 16, 2021
### College of the Atlantic

**General Instructions:**

1. The goal of this lab is to practice working with and thinking about triangles and things.

2. Work in groups of two or three.

3. Please check with me before going on to the next exercise.

4. There is nothing that you need to hand in. Please check with me before you leave the lab, however, so I can look over your work and ask a few questions before you leave.

## Right Triangles and Ratios

1. Using a ruler measure the $p$'s and $q$'s on each of the triangles in Fig. 1.

2. Determine values of $p_1/q_1$, $p_2/q_2$, and $p_3/q_3$.

3. Then do the same for the triangle on Fig. 2.

4. What does this ratio $p/q$ tell you?
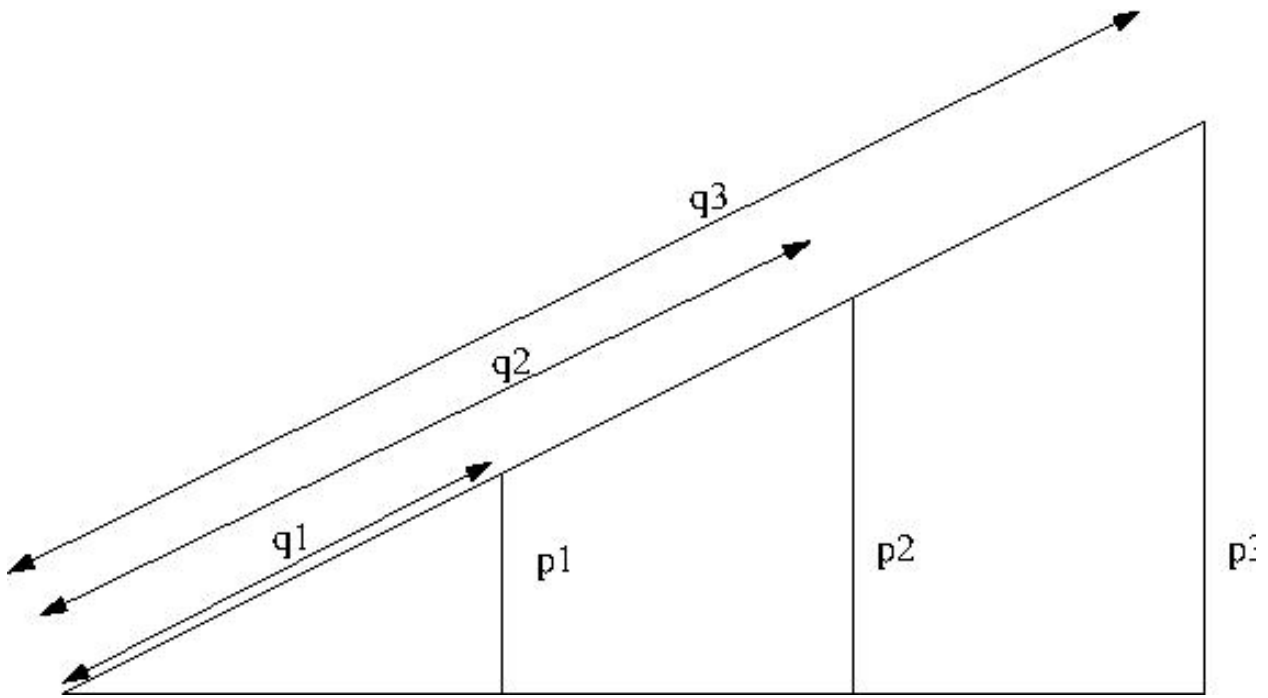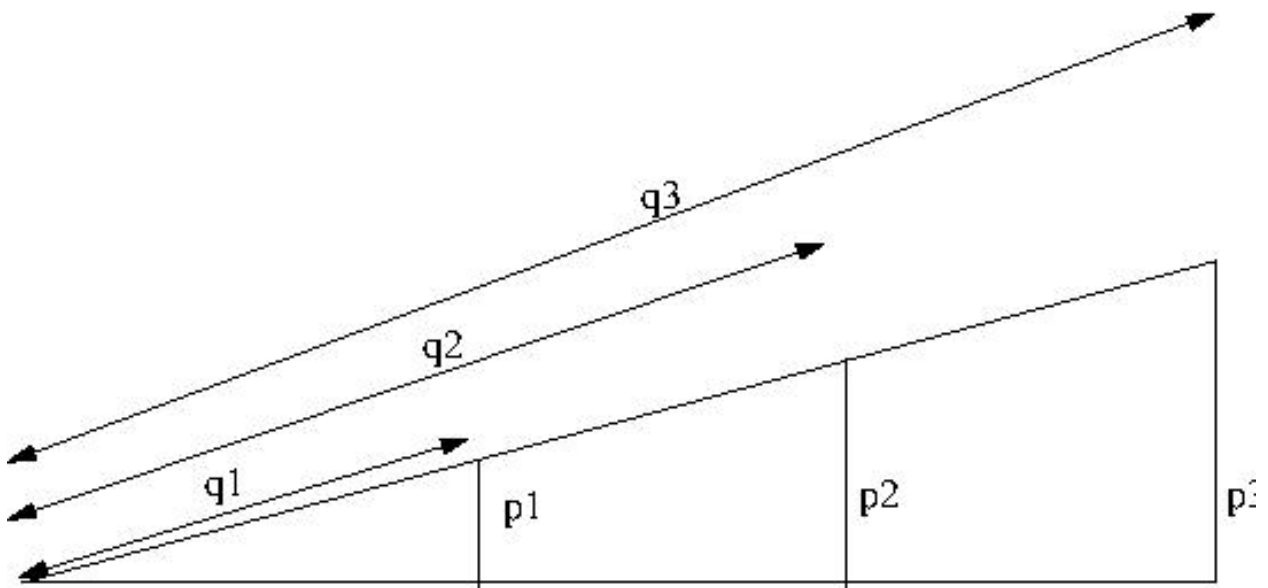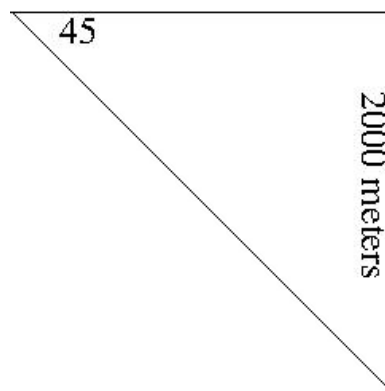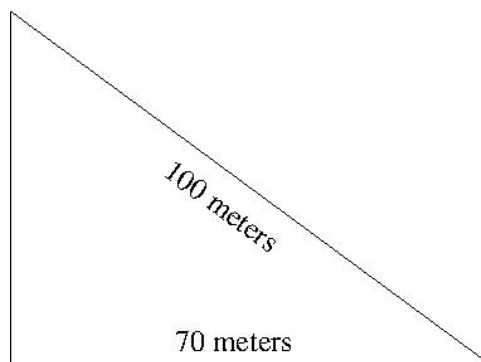
5. Invent a name for this ratio.

Figure 1:
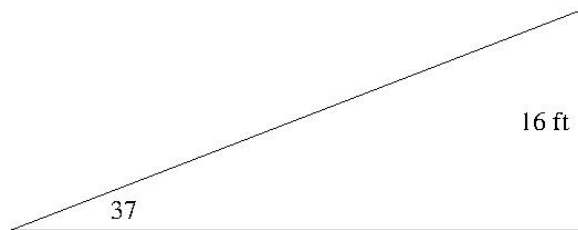


Figure 2:

# Trigonometry

1. Solve for all unknown sides and angles for the three triangles shown below.

16 ft

37

100 meters

70 meters

45

2000 meters

2. You walk 6000 meters in a direction 60 degrees north of east. This journey is equivalent to walking _____ meters due east and then _____ meters due north.

3. You walk 50 miles west and then 25 miles north. This journey is equivalent to walking _____ miles in what direction?