You will have at least 20 minutes to complete the quiz. You may use a calculator, but show your work.

1. [5 pts] A 120 foot long rope is pulled taught from a 100 foot flagpole to the ground. What angle does the rope make with the flagpole?

2. [5 pts] Suppose a line makes a $30°$ angle with the positive x-axis and goes through the point $(1, 1)$. Find the equation of the line.

3. [5 pts] Find the (acute) angle that the line $y = 2x + 3$ makes with the horizontal.

4. [5 pts] Find the perimeter of the largest right triangle in the figure below.