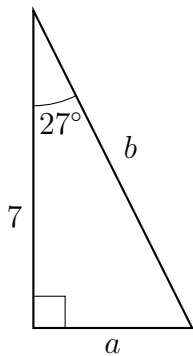


For each problem, show your work. Except where otherwise instructed, trigonometric and inverse-trig expressions must be simplified.

1. (2 points) Determine the value (in radians) of $\arctan \frac{1}{\sqrt{3}}$.
2. (3 points) Determine the value (in radians) of $\arccos \frac{-1}{2}$.
3. (3 points) What is the measure, in degrees, of an angle of $\frac{7\pi}{4}$ radians?
4. (4 points) Calculate $\tan 210^\circ$.
5. (4 points) *Leaving your answer in terms of unsimplified trigonometric calculations on 27° , determine the values of the lengths a and b in the triangle below, indicating which is which.*



6. (4 points) In the following triangle, determine the numerical value (fully simplified) of $\tan \theta$.

