1. Given \( z = 2 - 2\sqrt{3}i \)

a) Write the complete number above in the trig form \( z = r[\cos \theta + i\sin \theta] \) using \( 0 \leq \theta < 2\pi \). Box your answer.

b) Now find \( z^6 \) into trig form, then simplify it to standard form.

2. Multiply \( \left[ 6 \left( \cos \frac{\pi}{4} + i\sin \frac{\pi}{4} \right) \right] \left[ \frac{1}{3} \left( \cos \frac{\pi}{4} + i\sin \frac{\pi}{4} \right) \right] \) and put the answer in standard complex form.