1. (5 points) On your calculator, you can check that \( \cos(36^\circ) = 0.8090 \). How many angles \( \psi \) of measure between 300° and 750° will have \( \cos \psi = 0.8090 \)?

2. (5 points) A bicyclist rides so that her speed is a sinusoidal function of time. At \( t = 0 \) minutes, she is riding at a rate of 25 mph, her maximum speed. Four minutes later, she is riding at her minimum speed of 12 mph for the first time. The cyclist’s speed \( S(t) \) after \( t \) minutes can be written as a sinusoidal function in standard form:

\[
S(t) = A \sin \left[ \frac{2\pi}{B} (t - C) \right] + D.
\]

Give the values of \( A, B, C, \) and \( D \).