Two objects 1 and 2 of mass \( m_1 \) and \( m_2 \) are whirling around a shaft with a constant angular velocity \( \omega \). The first object is a distance \( d \) from the central axis, and the second object is a distance \( 2d \) from the axis. You may ignore the mass of the strings and neglect the effect of gravity.

a) What is the tension in the string between the inner object and the outer object?

b) What is the tension in the string between the shaft and the inner object?