Vectors

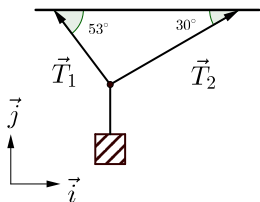### Question

A weight hangs from two wires as in the figure, creating two tension forces $\vec{T}_1$ and $\vec{T}_2$. If $|\vec{T}_1| = 4$, then which of the following equations for $\vec{T}_1$ is correct?

A. $\vec{T}_1 = -4\cos(53°)\vec{i} + 4\sin(53°)\vec{j}$

B. $\vec{T}_1 = -4\sin(53°)\vec{i} + 4\cos(53°)\vec{j}$

C. $\vec{T}_1 = -4\cos(37°)\vec{i} + 4\sin(37°)\vec{j}$

D. $\vec{T}_1 = -4\cos(30°)\vec{i} - 4\sin(30°)\vec{j}$

E. $\vec{T}_1 = 4\cos(53°)\vec{i} + 4\sin(53°)\vec{j}$