30. The rate of change of the angular momentum is

$$\frac{d\vec{\ell}}{dt} = \vec{\tau}_1 + \vec{\tau}_2 = 2.0\hat{\mathrm{i}} - 4.0\hat{\mathrm{j}}\ \mathrm{N\cdot m}\ .$$

Consequently, the vector $d\vec{\ell}/dt$ has a magnitude $\sqrt{2.0^2 + (-4.0)^2} = 4.5\,\mathrm{N\cdot m}$ and is at an angle θ (in the xy plane, or a plane parallel to it) measured from the positive x axis, where $\theta = \tan^{-1}\left(\frac{-4.0}{2.0}\right) = -63°$, the negative sign indicating that the angle is measured clockwise as viewed "from above" (by a person on the $+z$ axis).