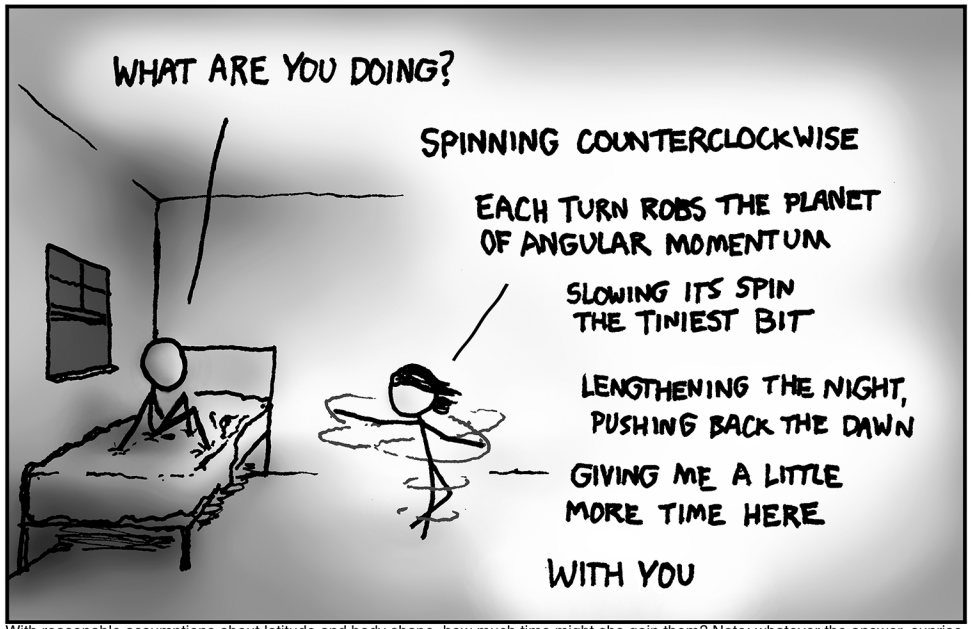
$$t_{gained} = \frac{I_{girl}}{I_{earth}} n \times day \approx \frac{60\,kg \times (30\,cm)^2}{M_{earth} r_{earth}^2} n \times 1\,day \underset{(n \approx 1)}{\approx} 10^{-35}\,seconds/turn$$




With reasonable assumptions about latitude and body shape, how much time might she gain them? Note: whatever the answer, sunrise always comes too soon. (Also, is it worth it if she throws up?)

$$\begin{bmatrix} \cos 90^\circ & \sin 90^\circ \\ -\sin 90^\circ & \cos 90^\circ \end{bmatrix} \begin{bmatrix} a_1 \\ a_2 \end{bmatrix} = \begin{bmatrix} a_2 & -a_1 \end{bmatrix}$$

In fact, draw all your rotational matrices sideways. Your professors will love it! And then they'll go home and shrink.

I CAN'T COUNT HOW MANY PEOPLE HAVE WRITTEN IN TO TELL ME THE DIRECTION OF ROTATION IS WRONG HERE. THEY SHOULD CHECK THE SIGNS MORE CAREFULLY.

("SHRINK" IN THE TITLE-TEXT, HOWEVER, WAS A TYPO. IT WAS SUPPOSED TO BE "DRINK," BUT I'VE LEFT IT BECAUSE OF $\left(\frac{1}{2}\right)\begin{bmatrix} a_1 \\ a_2 \end{bmatrix}$)