71. We take derivatives and let $dg \approx \Delta g$ and $dT \approx \Delta T$. The derivative of Eq. 16-28 is

$$\frac{dT}{dg} = 2\pi\left(\frac{1}{2}\right)\frac{-L/g^2}{\sqrt{L/g}}$$

which (after dividing the left side by T and the right side by $2\pi\sqrt{L/g}$) can be written

$$\frac{\Delta T}{T} = -\frac{1}{2}\frac{\Delta g}{g}$$

where both sides have also been multiplied by $dg \to \Delta g$. To make the units consistent, we write

$$\frac{\Delta T}{T} = \frac{2.5\,\text{min}}{1\,\text{day}} = \frac{2.5\,\text{min}}{1440\,\text{min}} = 0.00174\ .$$

Therefore, with $g = 9.81\ \text{m/s}^2$, we obtain

$$0.00174 = -\frac{1}{2}\frac{\Delta g}{9.81\,\text{m/s}^2} \quad \Longrightarrow \quad \Delta g = -0.034\ \text{m/s}^2$$

which yields $g' = g + \Delta g = 9.78\,\text{m/s}^2$.