

h. Compute  $L[t^{1/2}]$  and  $L[t^{-1/2}]$ .

$$L[t^{1/2}] = \frac{\Gamma\left(\frac{1}{2} + 1\right)}{s^{1/2+1}} = \frac{\Gamma\left(\frac{3}{2}\right)}{s^{3/2}} = \frac{\frac{\sqrt{\pi}}{2}}{s^{3/2}} = \frac{\sqrt{\pi}}{2s^{3/2}}$$

$$L[t^{-1/2}] = \frac{\Gamma\left(-\frac{1}{2} + 1\right)}{s^{-1/2+1}} = \frac{\Gamma\left(\frac{1}{2}\right)}{s^{1/2}} = \frac{\sqrt{\pi}}{s^{1/2}} = \sqrt{\frac{\pi}{s}}$$