1. $\mathcal{L}^{-1}\left\{\frac{1}{s^3}\right\}$

2. $\mathcal{L}^{-1}\left\{\frac{1}{s^4}\right\}$

3. $\mathcal{L}^{-1}\left\{\frac{1}{s^2} - \frac{48}{s^5}\right\}$

4. $\mathcal{L}^{-1}\left\{\left(\frac{2}{s} - \frac{1}{s^3}\right)^2\right\}$

5. $\mathcal{L}^{-1}\left\{\frac{(s+1)^3}{s^4}\right\}$

6. $\mathcal{L}^{-1}\left\{\frac{(s+2)^2}{s^3}\right\}$

7. $\mathcal{L}^{-1}\left\{\frac{1}{s^2} - \frac{1}{s} + \frac{1}{s-2}\right\}$

8. $\mathcal{L}^{-1}\left\{\frac{4}{s} + \frac{6}{s^5} - \frac{1}{s+8}\right\}$

$y'' + y = \sqrt{2}\sin\sqrt{2}t, \quad y(0) = 10,\ y'(0) = 0$