1. $\mathcal{L}\{te^{10t}\}$

2. $\mathcal{L}\{te^{-6t}\}$

3. $\mathcal{L}\{t^3 e^{-2t}\}$

4. $\mathcal{L}\{t^{10} e^{-7t}\}$

5. $\mathcal{L}\{t(e^t + e^{2t})^2\}$

6. $\mathcal{L}\{e^{2t}(t-1)^2\}$

7. $\mathcal{L}\{e^t \sin 3t\}$

8. $\mathcal{L}\{e^{-2t} \cos 4t\}$

9. $\mathcal{L}\{(1 - e^t + 3e^{-4t}) \cos 5t\}$

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

12. $\mathcal{L}^{-1}\left\{\dfrac{1}{(s-1)^4}\right\}$

13. $\mathcal{L}^{-1}\left\{\dfrac{1}{s^2 - 6s + 10}\right\}$

14. $\mathcal{L}^{-1}\left\{\dfrac{1}{s^2 + 2s + 5}\right\}$

15. $\mathcal{L}^{-1}\left\{\dfrac{s}{s^2 + 4s + 5}\right\}$

16. $\mathcal{L}^{-1}\left\{\dfrac{2s+5}{s^2 + 6s + 34}\right\}$