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

**2** 
$$\mathscr{L}^{-1} \left\{ \frac{1}{s^4} \right\}$$

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

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

**5.** 
$$\mathscr{L}^{-1}\left\{\frac{(s+1)^3}{s^4}\right\}$$
 **6.**  $\mathscr{L}^{-1}\left\{\frac{(s+2)^2}{s^3}\right\}$ 

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

7. 
$$\mathcal{L}^{-1}\left\{\frac{1}{s^2} - \frac{1}{s} + \frac{1}{s-2}\right\}$$
 8.  $\mathcal{L}^{-1}\left\{\frac{4}{s} + \frac{6}{s^5} - \frac{1}{s+8}\right\}$ 

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