$$W(s) = \frac{3s + 2}{s^3(0{,}2s + 1)}.$$

Определить $w(t)$ и $h(t)$.

$$\frac{A}{S} + \frac{B}{S^2} + \frac{C}{S^3} + \frac{D}{0{,}2S+1} =$$

$$= \frac{AS^2(0{,}2S+1) + BS(0{,}2S+1) + C(0{,}2S+1) + DS^3}{S^3(0{,}2S+1)} =$$

$$= A \cdot 0{,}2\,S^3 + AS^2 + B \cdot 0{,}2\,S^2 + BS + C \cdot 0{,}2\,S + C + D \cdot S$$

$$\begin{cases} S^3: & 0{,}2A + D = 0 \\ S^2: & A + 0{,}2B = 0 \\ S^1: & B + 0{,}2C = 3 \\ S^0: & C = 2 \end{cases} \qquad \begin{aligned} D &= 1{,}04 \\ A &= -5{,}2 \\ B &= 2{,}6 \end{aligned}$$

$$W(s) = \frac{A}{S} + \frac{B}{S^2} + \frac{C}{S^3} + \frac{\frac{D}{0{,}2}}{S+5} =$$

$$= -\frac{5{,}2}{S} + \frac{2{,}6}{S^2} + \frac{2}{S^3} + \frac{5{,}2}{S+5}$$

$$W(t) = -5{,}2 \cdot 1(t) + 2{,}6t + t^2 + 5{,}2e^{-5t}$$

$$h(t) = \int_0^t W(t)\,dt = -5{,}2t + 2{,}6\frac{t^2}{2} - \frac{t^3}{3} - \frac{5{,}2}{5}\left(e^{-5t} - 1\right)$$