

$$y_1(0) = (-225\sqrt{5} \cdot 0 + \bar{c}_1)^{2/5} = 30$$

$$\bar{c}_1 = 30$$

$$\bar{c}_1 = 30^{5/2} = 4929,5$$

$$y_2(0) =$$

$$\bar{c}_2 = 80$$

$$\bar{c}_2 = 80^{5/2} = 76843,3$$

$$y_3(0) =$$

$$\bar{c}_3 = 120 = 157744,1$$

$$\Rightarrow y_1(t) = (4929 - 225\sqrt{5}t)^{2/5} = 0$$

$$\Rightarrow 225\sqrt{5}t = 4929,5$$

$$\Rightarrow t_1 = \frac{4929,5}{225\sqrt{5}} = \underline{\underline{9,79 \text{ s}}}$$

$$y_2(t) = (76843,3 - 225\sqrt{5}t)^{2/5}$$

$$\Rightarrow t_2 = \frac{76843,3}{225\sqrt{5}} = \underline{\underline{152,73 \text{ s}}}$$

$$y_3(t) = (157744,1 - 225\sqrt{5}t)^{2/5}$$

$$\Rightarrow t_3 = \frac{157744,1}{225\sqrt{5}} = \underline{\underline{331,53 \text{ s}}}$$