Ans to the question 5(b):

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 \begin{aligned} &\inf_{x \in \mathbb{F}} \ \mathsf{DSolve} \Big[ \Big\{ 3 \, \mathsf{x} \, [y]^2 \, \mathsf{y}^2 \, \mathsf{Dt} \, [\mathsf{x} [y]] \, \Big/ \, \mathsf{Dt} [y] = 4 \, \mathsf{y}^5, \, \mathsf{x} [\emptyset] = \emptyset \Big\}, \, \mathsf{x} [y], \, \mathsf{y} \Big] \\ & \text{Out}_{x \in \mathbb{F}} \ \Big\{ \Big\{ \mathsf{x} \, [y] \, \to \, \left( y^4 \right)^{1/3} \Big\}, \, \Big\{ \mathsf{x} \, [y] \, \to \, \left( -1 \right)^{1/3} \, \left( y^4 \right)^{1/3} \Big\}, \, \Big\{ \mathsf{x} \, [y] \, \to \, \left( -1 \right)^{2/3} \, \left( y^4 \right)^{1/3} \Big\} \Big\} \\ & \text{In}_{x \in \mathbb{F}} = \, \mathsf{x} \, [y] \, /. \, \, \%29 \, /. \, \, \mathsf{y} \to \, 4 \, // \, \mathsf{N} \\ & \text{Out}_{x \in \mathbb{F}} = \, \{ 6.3496, \, -3.1748 \, - \, 5.49892 \, \dot{\mathbb{I}}, \, -3.1748 \, + \, 5.49892 \, \dot{\mathbb{I}} \, \Big\} \end{aligned}
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