

40.
$$y'_x = y f(e^{\alpha x} y^m)$$
.

The substitution $\,z=e^{\alpha x}y^m\,$ leads to a separable equation: $\,z_x'=\alpha z+mzf(z).$

Reference

Polyanin, A. D. and Zaitsev, V. F., *Handbook of Exact Solutions for Ordinary Differential Equations, 2nd Edition,* Chapman & Hall/CRC, Boca Raton, 2003.

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http://eqworld.ipmnet.ru/en/solutions/ode/ode0140.pdf