48. $[f(e^{\alpha x}y^m) + mxg(e^{\alpha x}y^m)]y'_x = y[h(e^{\alpha x}y^m) - \alpha xg(e^{\alpha x}y^m)]$.

The substitution $t = e^{\alpha x}y^m$ leads to a linear equation with respect to $x = x(t)$:

$$t[\alpha f(t) + mh(t)]x'_t = mg(t)x + f(t).$$

Reference

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

