1. Classify each of the following DEs as separable, linear, homogeneous, or Bernoulli. Do not solve.

   (a) \( (e^x + 2) \frac{dy}{dx} = 4e^x - 3y \)

   (b) \( x^2y' + y^{2/3} = e^x y \)

   (c) \( \frac{2yy'}{x} + e^{x-3y} = 0 \)

   (d) \( x^2y' = y^2 - 2xy - \frac{x^3}{y} \)

2. Use a suitable substitution to solve the DE \( y' + 4 = e^{4x+y^{-1}} \)