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

   (a) $xy' = \dfrac{x^2}{y} + 2x + y$

   (b) $\dfrac{yy'}{x^2} + e^{2x-3y} = 0$

   (c) $2xy' + y^{5/3} = x^3 y$

   (d) $(x-1)\dfrac{dy}{dx} = 2y - 3x$

2. Use a suitable substitution to solve the DE $y' + 2 = \tan(2x + y - 3)$