MA 262 - Quiz 2 (Lessons 3-5)

1. Find the general solution to the equation

$$\frac{\mathrm{d}y}{\mathrm{d}x} = \frac{y}{x} + 2x^2 \quad .$$

2. Determine whether the equation

$$(10xy^3 - 3ye^{xy})dx + (15x^2y^2 - 3xe^{xy})dy = 0$$

is exact, and if it is, solve it.