Question 1

Find the general solution to the below equation using the integrating factor method.

$$2y - y' = 8\frac{x+1}{x^3}$$

Question 2

Use seperation of variables to find the general solution. Then obtain the particular solution satisfying the given initial condition. Sketch the graph of the solution, showing the key feaures, and label any key values.

$$y' = \frac{y}{3x+1}, y(0) = 2$$