Name: _____

1 (6 pts). Determine if the equation $y' = -\frac{2y}{x}$ is linear, separable, or exact. For exactness, use the differential form $2xydx + x^2dy = 0$. Explain your reasoning.

2 (4 pts). Model a population $P(t)$, if its rate of growth is propotional to the amount at time t. Assume the rate constant is $r > 0$.