

1. [8pts] Find the position function  $x(t)$  of a moving particle with acceleration  $a(t) = \frac{8}{(t+2)^3}$ , initial position  $x_0 = 3$  and initial velocity  $v_0 = 2$ .

2. [8pts] Find a general solution of the DE:  $y' - y = e^{2x}y^2$