

HOMWORK 1-PART A

1. (a) Draw Direction field of $y' = -2x + y$. (Use 2 methods taught in class.) (b) Sketch the integral curve from the direction field draw in (a).

2. Do same steps as (1) for the ODE $y' = -xy$.

3. Write the following ODE's into normal form.

(a) $xy' + 2xyy' - y^2 = 1$

(b) $t^2 dx = (1 + x^2) dt$

(c) $x dy - y dx = 0$

(d) $2xy' + 2xe^y - y' = 2$