

## 2E2 Tutorial Sheet 15 Second Term<sup>1</sup>

17 February 2004

1. (3) By linearizing around the critical points, draw the phase plane portrait of

$$y'' + y - y^3 = 0 \quad (1)$$

2. (3) By linearizing around the critical points, draw the phase plane portrait of

$$y'' = \cos 2y \quad (2)$$

3. (3) By linearizing, sketch the phase space trajectories of

$$y'' = -y' + y - y^2 \quad (3)$$

---

<sup>1</sup>Conor Houghton, [houghton@maths.tcd.ie](mailto:houghton@maths.tcd.ie) and <http://www.maths.tcd.ie/~houghton/2E2.html>