

ECON3120/4120 – Mathematics 2, spring term 08: **Problems for seminar 04, Week 09**

Note: The material for problems 1 and 2 will not be covered until Friday 22nd.

- 1 L.A: 2.6.2. (EMEA: 15.9.2.)
- 2 The price vector is  $(2, 3, 5)$  and you can afford the commodity vector  $(10, 5, 8)$ . What is your budget constraint?
- 3 Exam problem 43.
- 4 Suppose  $Y = Y(t)$  is national product,  $C(t)$  is consumption at time  $t$ , and  $\bar{I}$  is investment, which is constant. Suppose  $\dot{Y} = \alpha(C + \bar{I} - Y)$  and  $C = aY + b$ , where  $a, b$ , and  $\alpha$  are constants with  $0 < a < 1$ . Derive a differential equation for  $Y$ . Find its solution with  $Y(0) = Y_0$  is given.
- 5 Exam problem 111.