

Lecture 07 Worksheet (ECON211), AY 2025-26 [Date: 29 Jul 2025]

1. The equilibrium condition for two related markets (french toasts and egg benedict) are given by:

$$\begin{aligned}18P_F - P_B &= 87 \\ -2P_F + 36P_B &= 98\end{aligned}$$

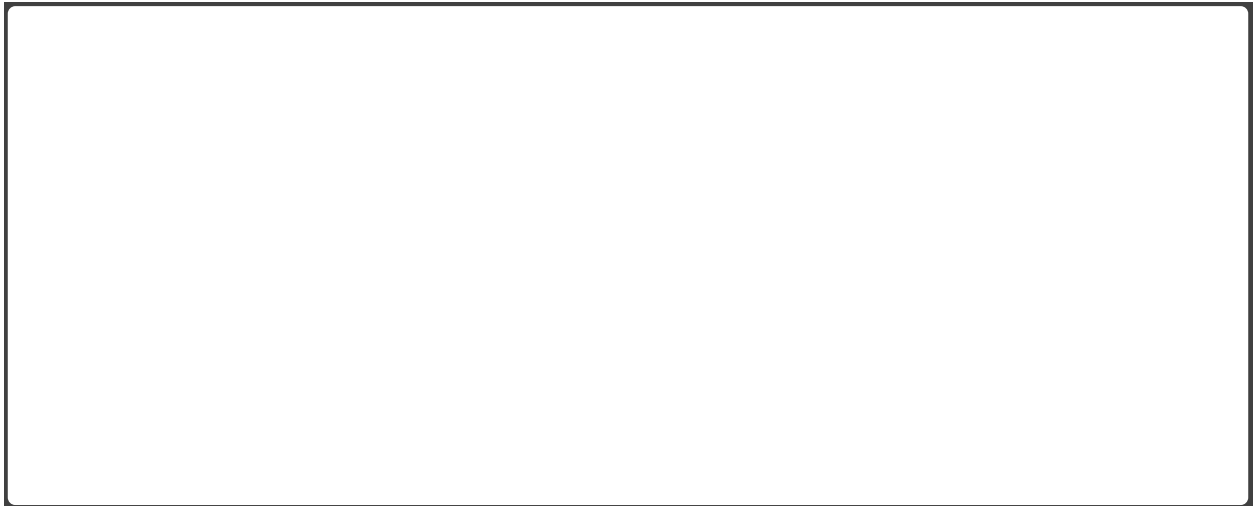
Express this system of equations in matrix form, and hence find the equilibrium prices.



2. Express the following sums in summation form.

i. $2 + 5 + 10 + 17$

ii. $0 + 2 + 6 + 12$



3. Simple AP & GP Problems

- a) The first term of an AP is 5, and the common difference is 4. Find the 10th term and the sum of the first 20 terms.
- b) The first three terms of an AP are 12, 9, 6. Find the 7th term and the sum of the first seven terms.
- c) The first term of a GP is 3, and the common ratio is 2. Find the 8th term and the sum of the first 12 terms.
- d) The first three terms of a GP are 81, 27, 9. Find the fifth term and the sum of the first five terms.

4. You invest ₹1000 in a financial product that promises 12% annual interest rate. Interest is accrued monthly to your account. What will be the balance 2 years later under the following scenarios? a) simple interest rate; b) compound interest rate; c) continuous compounding Compute the EAR under each of the above scenarios.