

## INCLASS EXAM

*THE ECONOMY*

- Two goods,  $A$  and  $X$ , written in this order.
- Two consumers, 1 and 2.
- One firm.

**Consumer 1**

- Consumption set  $R_+^2$
- Endowment vector  $\omega_1 = [0, 2]$
- Profit share  $\theta_1 = 0$
- Utility function  $u_1 = 2\sqrt{2}A_1 - \frac{A_1^2}{2} + 2X_1 - \frac{X_1^2}{2}$

**Consumer 2**

- Consumption set  $R_+^2$
- Endowment vector  $\omega_2 = [0, 0]$
- Profit share  $\theta_2 = 1$
- Utility function  $u_2 = A_2$

The firm produces good  $A$  out of good  $X$  with technology described by the production function

$$A = \begin{cases} 3X & \text{if } X \leq 1 \\ 3 & \text{if } X \geq 1 \end{cases}$$

*QUESTIONS*

**Compute all competitive equilibria.**