

Due: **Beginning of the hour** on the day announced in class. **Late homework (after the class starts) will NOT be accepted.**
Show all calculations on separate sheets of paper and **staple** all pages, including this page (**without showing the calculations, there will be no credit**).
 Your grade will depend not only on the correctness of your answers but on neatness, clarity, organization, and thoroughness. Please do **your own work**. If you need help, ask the instructor or a tutor. **Do not ask a fellow student!** Submitting identical works, which usually contain the same errors, is cheating and will have **grave consequences** (see the Syllabus).

In the table below, income data are given for a hypothetical economy.

1) If planned investment spending is fixed at \$300, government purchases are fixed at \$150, and net export is fixed at \$50, complete the table.

Income or GDP (\$)	Consumption Spending (\$)	Investment spending (\$)	Government Purchases (\$)	Net Export (\$)	Aggregate Expenditures (\$)
3000	2950	300	150	50	3450
3500	3300	300	150	50	3800
4000	3650	300	150	50	4150
4500	4000	300	150	50	4500
5000	4350	300	150	50	4850
5500	4700	300	150	50	5200

b) The marginal propensity to consume is .7. Show how you calculated the answer.

$$MPC = \frac{C_2 - C_1}{Y_2 - Y_1} = \frac{4350 - 4000}{5000 - 4500} = \frac{350}{500} = .7$$

3) The average propensity to consume at GDP level of \$4000 is .9125. Show how you calculated the answer.

$$APC = \frac{C_1}{Y_1} = \frac{3650}{4000} = .9125$$

4) The marginal propensity to save is .3. Show how you calculated the answer.

$$MPS = 1 - MPC = 1 - .7 = .3$$

5) The average propensity to save at GDP level of \$4000 is .0875. Show how you calculated the answer.

$$APS = 1 - .9125 = .0875$$

6) The expenditure multiplier, k, is equal to 3.333. Show how you calculated the answer.

$$K = \frac{1}{1 - mpc} = \frac{1}{mps} = \frac{1}{.3} = 3.3333$$

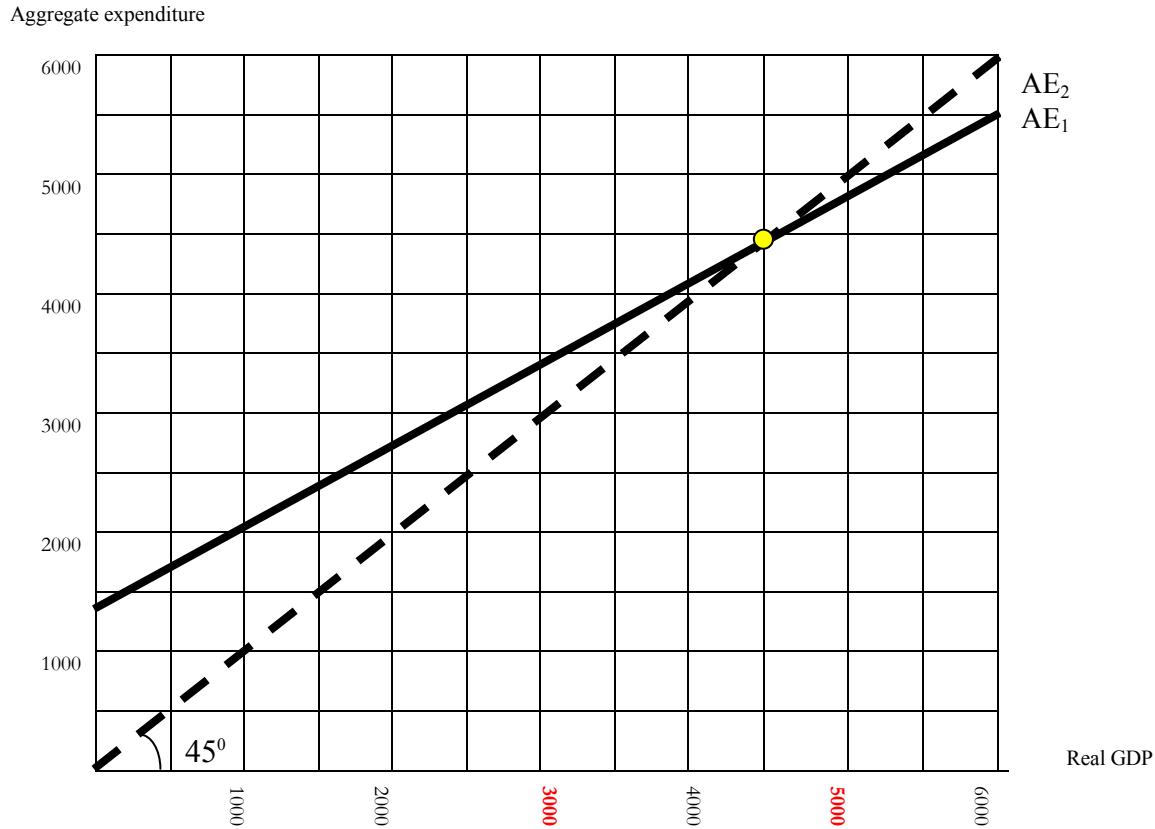
7) Equilibrium GDP is \$4500. Show how you calculated the answer.

$$Y_e = \$4500$$

8) Can you write the equation of the consumption function? [Hint: $(C - C_1)/(C_2 - C_1) = (Y - Y_1)/(Y_2 - Y_1)$]

$$C - 3650/4000 - 3650 = Y - 4000/4500 - 4000 \quad C - 3650/350 = Y - 4000/500 \quad C = 850 + .7Y$$

9) On the grid provided below, draw the 45-degree line on which income and aggregate expenditures are equal. Draw the total expenditure line and show an equilibrium GDP. ($AE_1 = 1350 + .7 Y$)



10) At the GDP level of \$4500, the change in firms' inventories is equal to **0**. Therefore, output will **not change**.

$$\$4500 = \$4500$$

11) At the GDP level of \$3000, the change in firms' inventories is equal to **-\$450**. Therefore, output will **increase**.

$$\$3000 - \$3450 = -\$450$$

12) At the GDP level of \$5000, the change in firms' inventories is equal to **\$150**. Therefore, output will **decrease**.

$$\$5000 - \$4850 = \$150$$

13). If government expenditures, G, increase to a fixed level of \$300. The equilibrium GDP will increase to the level of \$5000 . Show how you calculated the answer. Also, show your answer graphically on the above diagram.

$$\Delta Y = \Delta G / (1 - mpc) = \$150 / (1 - 0.7) = \$150 / 0.3 = \$500$$

So $Y_e^2 = Y_e^1 + \Delta Y = \$4500 + \$500 = \5000

Aggregate expenditure

