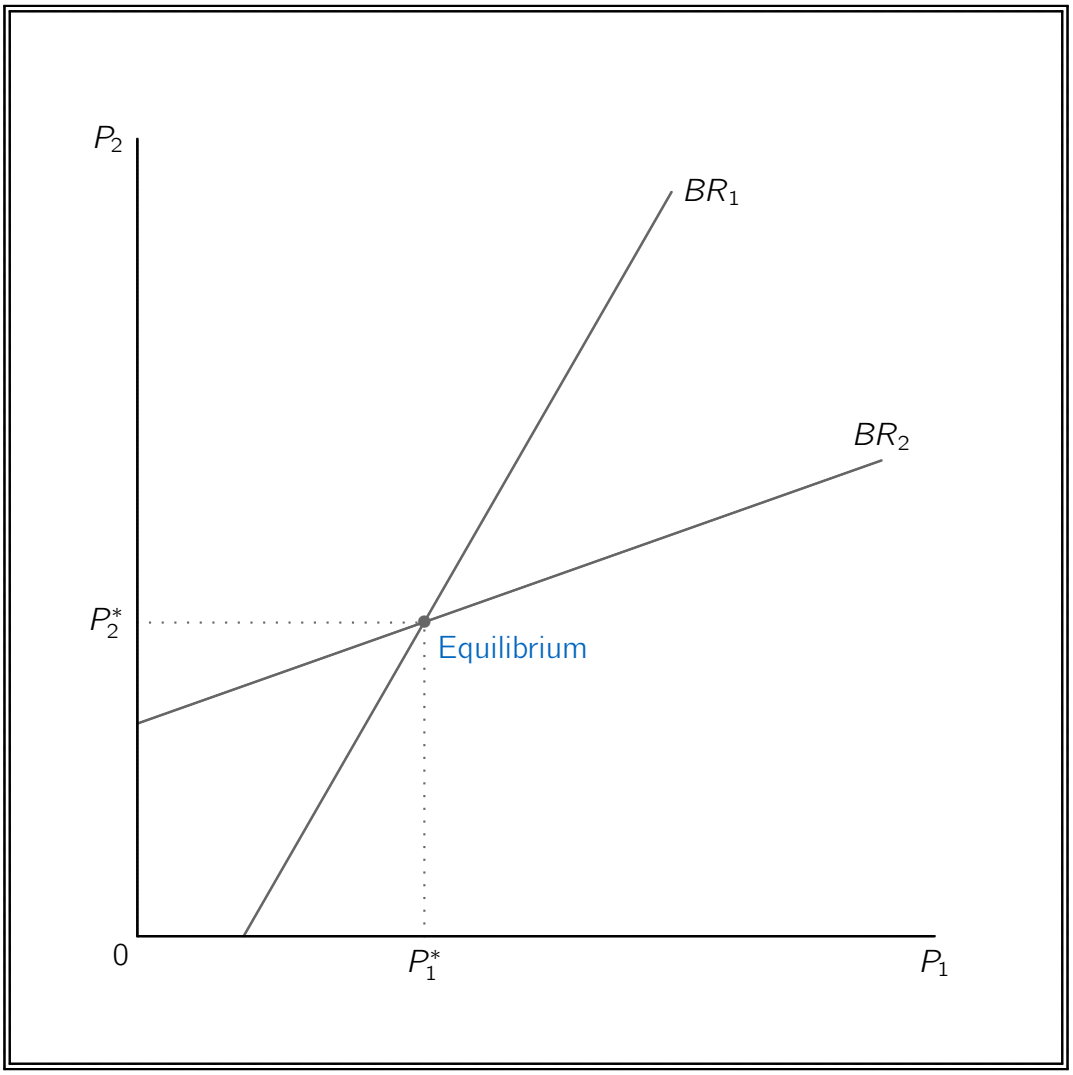
PRICE THEORY

ASSIGNMENT 2



INSTRUCTIONS & QUESTIONS

Assignment Instructions

Prepare your assignment in accordance with the following instructions:

1. Answer all questions.
2. Show all working.
3. All answers and equations must be typed.
4. All graphs must be computer generated.
5. Your assignment must be your own work.
6. Submit your assignment through Turnitin.

Following the submission of your assignment:

7. Check that you received a Turnitin receipt at your RMIT student email address. If you have not received a Turnitin receipt then your assignment was NOT successfully submitted. If you do not successfully submit your assignment, you will receive a grade of zero.
8. Review your assignment on Turnitin to ensure that you have uploaded the correct file, and that your file appears as you intend.
9. Retain your email receipt as proof of a successful submission.

Failure to follow these instructions will result in the loss of marks.

In accordance with RMIT University policy, late assignments will be penalised 10% per day, or part thereof. Assignments that are more than ten (10) days late will not be marked. Note: The timestamp on your assignment will be the time at which you successfully complete the Turnitin submission process.

There are a total of twenty (20) marks available on this assignment. This assignment contributes 25% of your final grade.

Assignment Questions

Two firms, Alpha Vineyard and Beta Winery, produce and sell wine. The demand for Alpha's wine is given by the equation,

$$Q_A = 200 - P_A + P_B.$$

In this equation, the price of Alpha's wine is P_A per bottle, and the price of Beta's wine is P_B per bottle. Alpha Vineyard has a marginal cost of $MC_A = \$20$ per bottle, and a fixed cost of $FC_A = \$6000$. The demand for Beta's wine is given by the equation,

$$Q_B = 9000 - 100P_B + 40P_A.$$

Beta Winery has a marginal cost of $MC_B = \$10$ per bottle, and a fixed cost of $FC_B = \$10{,}000$. The two firms compete by simultaneously selecting prices.

Question 1: Are the bottles of wine produced by Alpha Vineyard and Beta Winery, homogeneous products or heterogeneous products? Your answer must reference the two firms' demand functions. (3 Marks)

Question 2: Find Alpha Vineyard's best-response function. (4 Marks)

Question 3: Find Beta Winery's best-response function. (4 Marks)

Question 4: In equilibrium, what price does each firm charge for a bottle of wine? How many bottles of wine does each firm sell? What is each firm's profit? (4 Marks)

Question 5: Which firm has the greater market power? Explain. (3 Marks)

Question 6: How would the equilibrium that you found in question 4 change if Beta Winery's fixed cost increased to $FC_B = \$100{,}000$? (2 Marks)