

Please complete these problems to the best of your ability and submit your solutions on Moodle by 11:59pm on Friday, September 10. When drawing any graphs, please use the appropriate labels on axes and specialization points.

1. Suppose that Alice, Bob, and Cassie are each able to produce red and white wine. Their production possibilities for a single day are as follows:
  - Alice is able to produce 2 bottles of red wine, or 7 bottles of white wine, or any combination of 2 bottles of red and 7 bottles of white at a constant trade-off.
  - Bob is able to produce 5 bottles of red wine, or 8 bottles of white wine, or any combination of 5 bottles of red and 8 bottles of white at a constant trade-off.
  - Cassie is able to produce 10 bottles of red wine, or 7 bottles of white wine, or any combination of 10 bottles of red and 7 bottles of white at a constant trade-off.
- (a) Sketch the production possibilities frontier for each of Alice, Bob, and Cassie individually.
- (b) What is the opportunity cost of a bottle of red wine for each person?
- (c) Who has the comparative advantage in producing red wine? Who has the comparative advantage in producing white wine?
- (d) Who has the absolute advantage in producing red wine? Who has the absolute advantage in producing white wine?
- (e) Sketch the joint production possibilities frontier (PPF) for these three individuals.
- (f) Is the combination of 12 bottles of red wine and 10 bottles of white wine feasible? Is it efficient? What about the combination of 6 bottles of red wine and 20 bottles of white wine?
- (g) Consider now the price of a bottle of red wine in terms of bottles of white wine. What prices would Alice and Bob be willing to trade at? Who, among Alice and Bob, would specialize in white wine at this price?
- (h) Consider once again the price of a bottle of red wine in terms of bottles of white wine. Suppose that a price of 2 bottles of white wine for a bottle of red wine is agreed upon. At this price, who would specialize in red wine? Who would specialize in white wine?
- (i) Suppose that Cassie approaches one other person, either Alice or Bob, to negotiate terms of trade. Suppose that Cassie has a powerful bargaining position, and is able to persuade her potential trade partner to agree to any price that does not exceed their opportunity cost. If Cassie wants to negotiate the best price for herself, who should she approach?