

1. Why must budget constraints be binding?
  - A. We do not model savings so we would never save
  - B. We maximize utility and more goods bought = more utility
  - C. Money has no value
  - D. Money loses value so it will be worth less tomorrow
  
2. Find the utility maximizing amount of each good for the following utility functions subject to budgets  $M = P_x X + P_y Y$ :
  - (a)  $U(x, y) = x^{1/2}y^{1/2}$  s.t.  $120 = 4x + y$
  - (b)  $U(x, y) = \alpha \ln(x) + y$  s.t.  $M = P_x x + P_y y$
  - (c)  $U(x, y) = \min\{2x, y\}$  s.t.  $16 = 2x + y$
  - (d)  $U(x, y) = 4x + 5y$  s.t.  $10 = 2x + 3y$
  
3. Draw a utility maximizing Indifference Curve subject to an arbitrary budget for the following function types:
  - (a) Cobb-Douglas
  - (b) Quasi-linear
  - (c) Perfect Complements
  - (d) Perfect Substitutes (Show both possible corner solutions)