

Workout Book Problems:

2.1, 2.4, 2.7, 3.7, 3.13, 4.1,4.11,5.5

1. For each of the following utility functions, find the MRS.

A)  $x_1x_2$

B)  $(2x_1)^3 x_2$

C)  $(2x_1)^2 (2x_2)^2$

D)  $\sqrt{x_1^2 - 3x_2}$

E)  $\ln [(2x_1^3) (2x_2^3)]$

F)  $x_1 + x_1x_2$

2. Sketch a few indifference curves of the following utility functions.

A)  $\min \{x_1, x_2\}$

B)  $\min \{x_1, 2x_2\}$

C)  $\max \{x_1, 2x_2\}$

D)  $x_1 + x_1x_2$

E)  $x_1^2x_2^2$

3. At prices  $p_1 = 1$  and  $p_2 = 2$  with income  $m = 10$ , what bundle of goods is optimal for the following utility functions?

A)  $x_1 + 2x_2$

B)  $x_1x_2$

C)  $x_1 + \ln(x_2)$

D)  $\min \{x_1, x_2\}$

E)  $\min \{2x_1, x_2\}$