Homework (Due date 13 Nov.)

1. Verify the Roy’s identity assuming that the preferences are represented by
2. Show that the Shephard’s lemma holds when the utility function is

where is a fixed parameter.

1. Derive the Hicksian demand given where operator yields the smallest of its arguments.
2. Show that the expenditure function is concave when the utility function is

where is a fixed parameter.

1. Derive the Marshallian demand.
2. Derive the Hicksian demand.
3. Find the expenditure function.
4. Show that the expenditure function is concave in .
5. Show that the indirect utility function is convex in and increasing in .