

## Modern Optics: Homework 13

Due: 2 October 2015

1 Bennett, *Principles of Physical Optics*, 4.6, page 135.

2 Bennett, *Principles of Physical Optics*, 4.7, page 135.

### 3 Object and image separation

- a) Consider a converging lens that produces a real image. Let  $D$  be the separation between the object and the image. Determine an expression for  $D$  in terms of the distance from the object to the lens.
- b) Suppose that the distance from the object to the lens can be varied. Determine the extreme value for  $D$  and show that it is a minimum

4 Bennett, *Principles of Physical Optics*, 4.8, page 135.