1. If we want to make a symmetrical double convex lens with a focal length of 12.0 cm out of glass with index $n = 1.51$, what must be the radius of curvature of the 2 spherical surfaces?

2. A double convex thin lens has a focal length of 12.0 cm.
(a) For a real object located at 20.0 cm left of the lens, use the lens equations to calculate the location of the image and its magnification.
(b) Is the image erect inverted ?
   larger smaller than the object?
   real virtual ? (Circle one.)
(c) Draw a ray diagram (using all 3 standard rays) to show the location of the image.
(d) Repeat parts (a), (b), and (c) for a real object located 6.00 cm to the left of the lens.

3. Determine the distance an object must be placed from a converging thin lens with a focal length of 12.0 cm in order to form a real image of the same size as the object. Show your method -- just the answer is not what I am interested in.

4. A double concave thin lens [diverging] has a focal length of 12.0 cm.
(a) For a real object located at 6.00 cm left of the lens, use the lens equations to calculate the location of the image and its magnification.
(b) Is the image erect inverted ?
   larger smaller than the object?
   real virtual ? (Circle one.)
(c) Draw a ray diagram (using all 3 standard rays) to show the location of the image.
(d) Repeat parts (a), (b), and (c) for a virtual object located 6.00 cm to the right of the lens.

5. From Pedrotti & Pedrotti: Ch. 3   # 2