1. A piece of iron is heated with a torch to a temperature of 853 K. How much more energy does it emit as blackbody radiation at 853 K than it does at room temperature, 290 K?

|  |
| --- |
| *E*853 |
| *E*290 |

 = 

1. A small object is placed to the left of a convex lens and on its optical axis. The object is 30 cm from the lens, which has a focal length of 11 cm. If the object is moved to a position 7 cm to the left of the lens, what will the image position be? (A positive value for *p*, or position, means the image is on the right side of the lens.)  
   *p* =  cm   
     
   Describe the nature of this new image. (Select all that apply.)

virtualrealuprightinvertedenlargedreducedon the left side of the lenson the right side of the lens

1. A camera is equipped with a lens with a focal length of 38 cm. When an object 2.2 m (220 cm) away is being photographed, what is the magnification?
2. ***Sue Storm, another member of the Fantastic Four, has the ability to not only make herself invisible, but also objects around her invisible.  She supposedly does this feat by mentally bending all wavelengths of light in the vicinity around herself or the target in question.  Leaving aside the issue of mental effects, how would bending light waves make an object invisible?  And if one were invisible, how would you then be able to see?   Make whatever assumptions you need in your discussion response***.