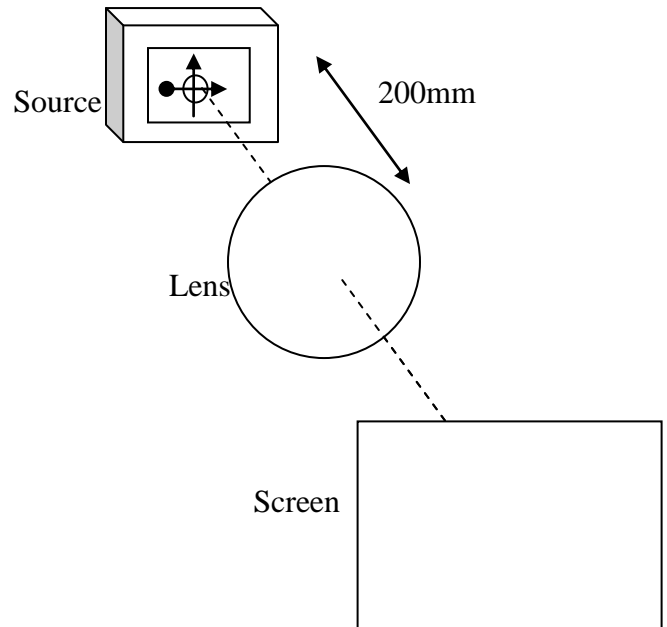


Physics 345 Pre-Lab 7

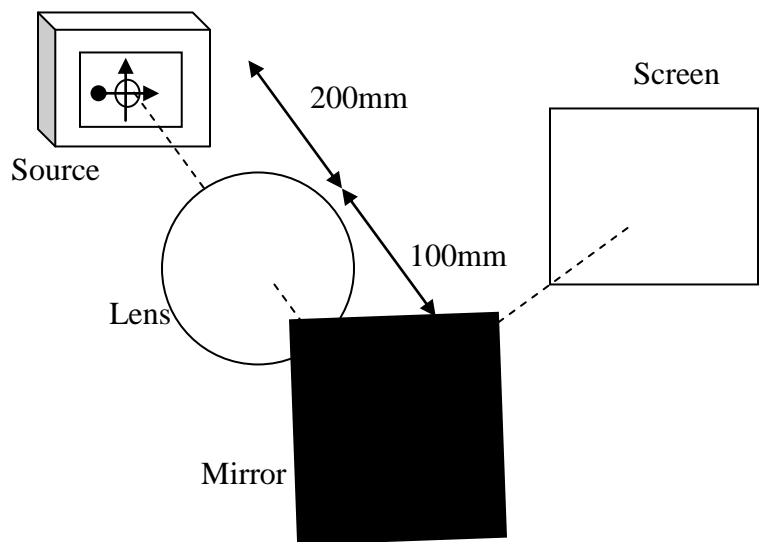
Images and reflection

Imagine that you have an extended light source with two arrows, one horizontal and one vertical. A 150 mm fl lens is placed 200 mm from the source.

A) How far from the source will the image form? Draw a picture of the image (as seen from the back of the screen) paying close attention to its orientation.



B) A mirror is now placed 100 mm from the lens at an angle of 45 degrees as shown in the diagram to the right. This will cause a ray traveling along the optical to axis to bend 90 degrees. A screen is placed at a position so that a clear image forms on it? What is the distance from the screen to the mirror? Draw the orientation of the image on the screen. Explain how you arrived at your answer.



C) Suppose that the mirror were located 100 mm from the source and the lens located 100 mm from the mirror as shown in the diagram below. Once more the ray traveling along the optical axis reflects through a 90 degree angle. What is the distance from the lens to the screen? Draw the orientation of the image on the screen. Explain how you arrived at your answer.

