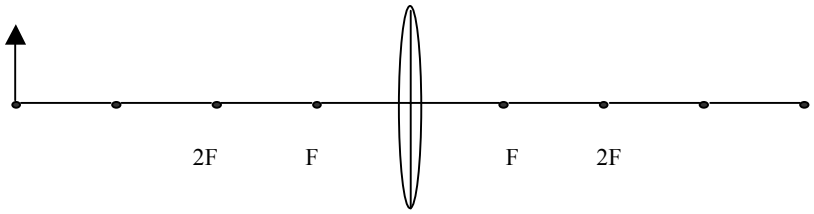
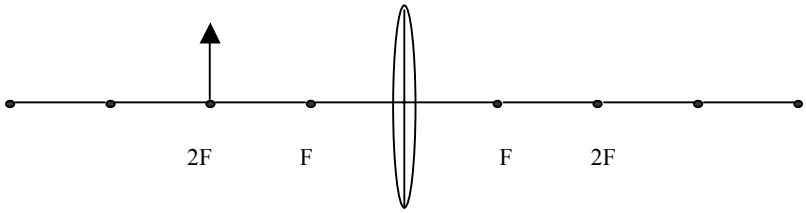
Convex Lenses Practice Worksheet

For each problem below, <u>draw the ray diagram</u> for the lens. Then use the thin lens equation and magnification equation to <u>determine image distance and height</u>. Last, <u>describe the image</u> formed (inverted or upright, larger or smaller, real or virtual). For question #6, you will also practice constructing a ray diagram from scratch.

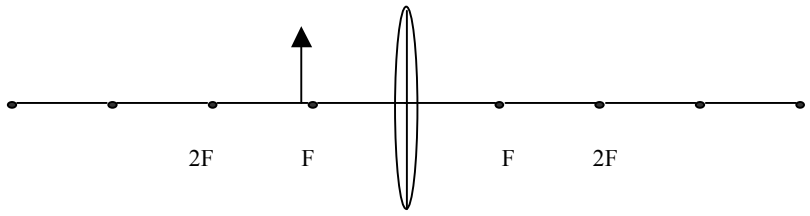
1. A 15.0 cm object is placed 60.0 cm from a convex lens, which has a focal length of 15.0 cm.



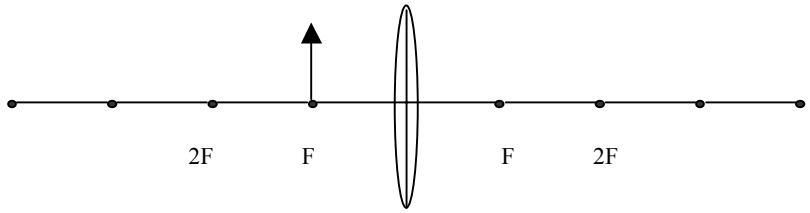
2. A 15.0 cm object is placed 30.0 cm from a convex lens, which has a focal length of 15.0 cm.



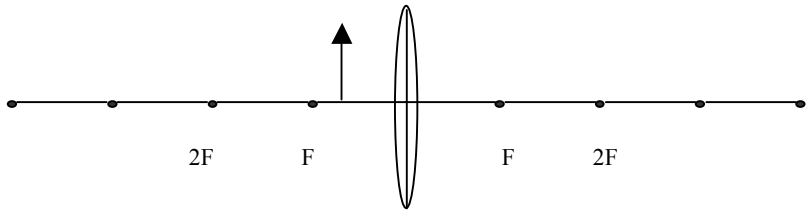
3. A 15.0 cm object is placed 16.0 cm from a convex lens, which has a focal length of 15.0 cm.



4. A 15.0 cm object is placed 15.0 cm from a convex lens, which has a focal length of 15.0 cm.



5. A 15.0 cm object is placed 10.0 cm from a convex lens, which has a focal length of 15.0 cm.



6. A 2-meters-tall person is located 5 meters from a camera lens (camera lenses are convex lenses). The lens has a focal length of 35 millimeters.