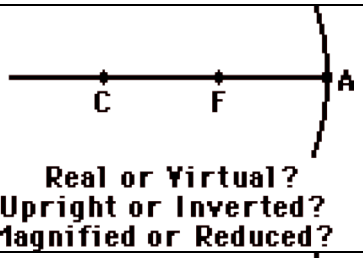
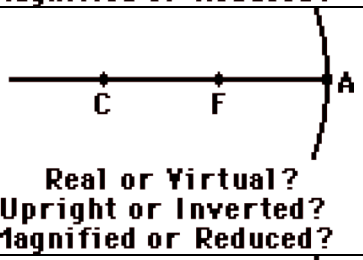
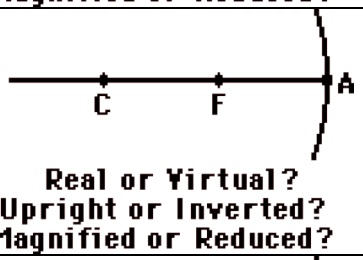
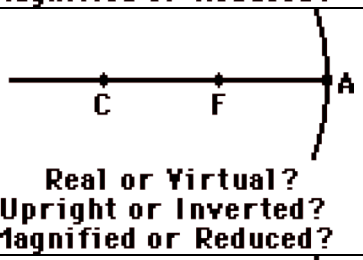
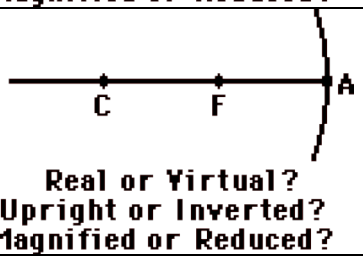
Object-Image Relations

Read from **Lesson 3** of the **Reflection chapter** at **The Physics Classroom:**

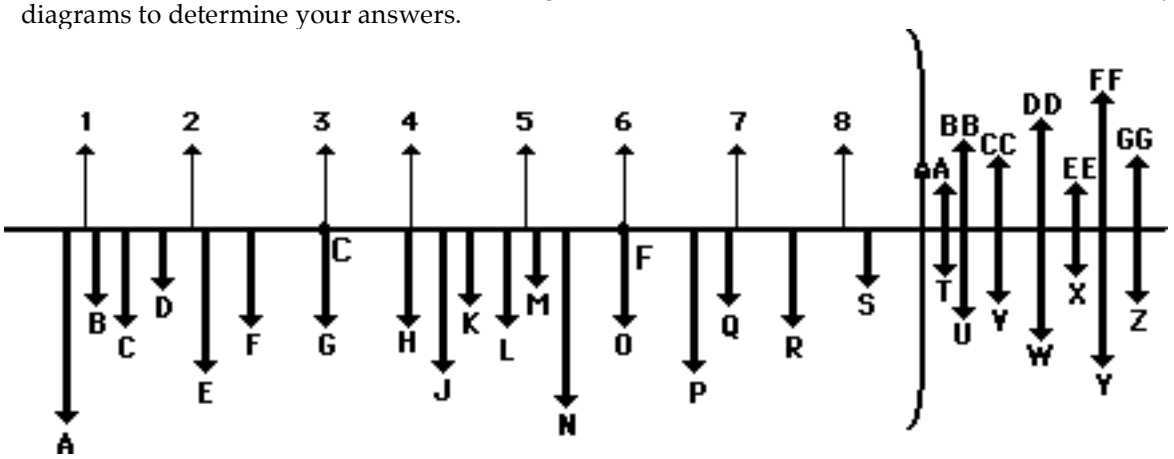
http://www.physicsclassroom.com/Class/refln/u13l3d.html
http://www.physicsclassroom.com/Class/refln/u13l3e.html

MOP Connection: Reflection and Mirrors: sublevels 6, 7, 9, 10, and 11

1. A 10.0-cm tall object is placed in front of a concave mirror with a focal length of 20.0 cm. For each object distance, calculate the image distance, magnification, and image height. Sketch a ray diagram showing the object in the appropriate location and the image with the proper location, orientation and relative size.

	d_o	d_i	Mag.	h_i	Ray Diagram Sketch
a.	50.0 cm	_____	_____	_____	
b.	40.0 cm	_____	_____	_____	
c.	30.0 cm	_____	_____	_____	
d.	20.0 cm	_____	_____	_____	
e.	10.0 cm	_____	_____	_____	

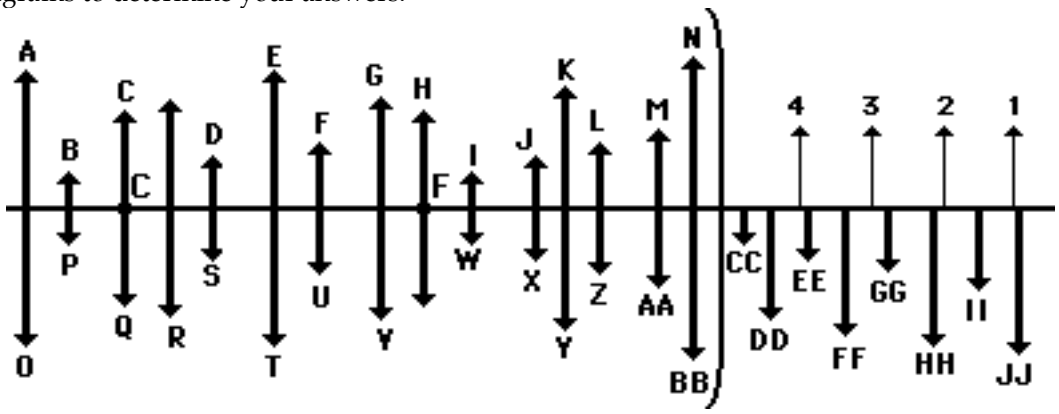
2. Arrows numbered 1-8 represent object locations for a concave mirror. For each of these objects, use your understanding of image characteristics to determine the corresponding image location, orientation and relative size. Since these diagrams have not been created to scale, do NOT use ray diagrams to determine your answers.



Object	Image
1	
2	
3	
4	

Object	Image
5	
6	
7	
8	

3. Arrows numbered 1-4 represent object locations for a convex mirror. For each of these objects, use your understanding of image characteristics to determine the corresponding image location, orientation and relative size. Since these diagrams have not been created to scale, do NOT use ray diagrams to determine your answers.



Object	Image
1	
2	

Object	Image
3	
4	