

AP Physics - Geometric Optics - Lenses

Note Title

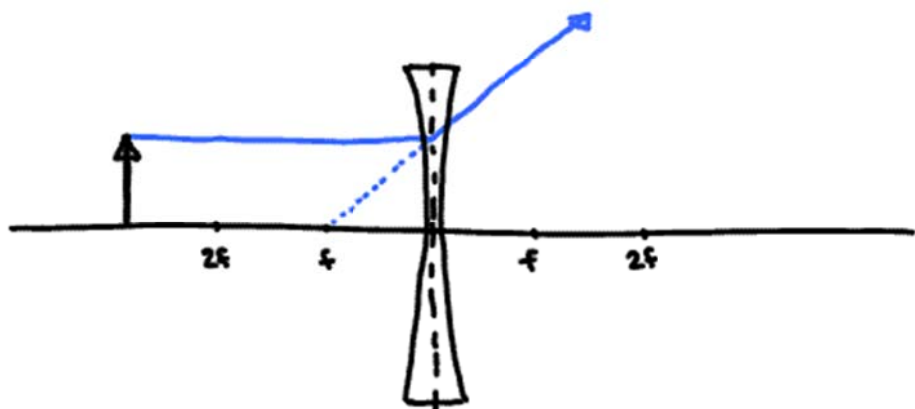
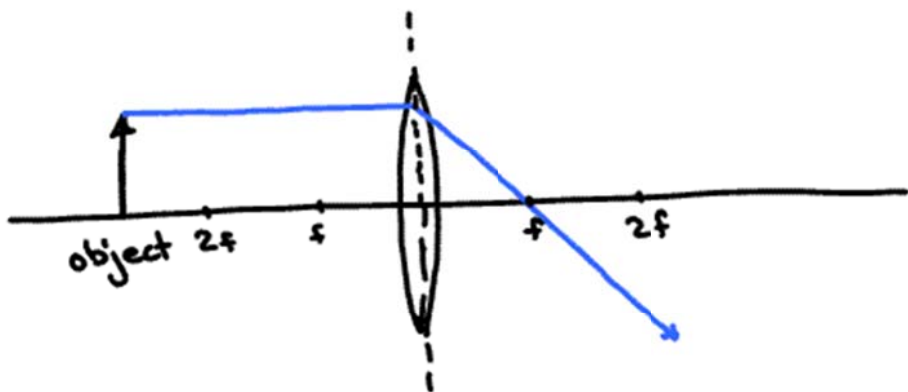
1/25/2008

Lenses

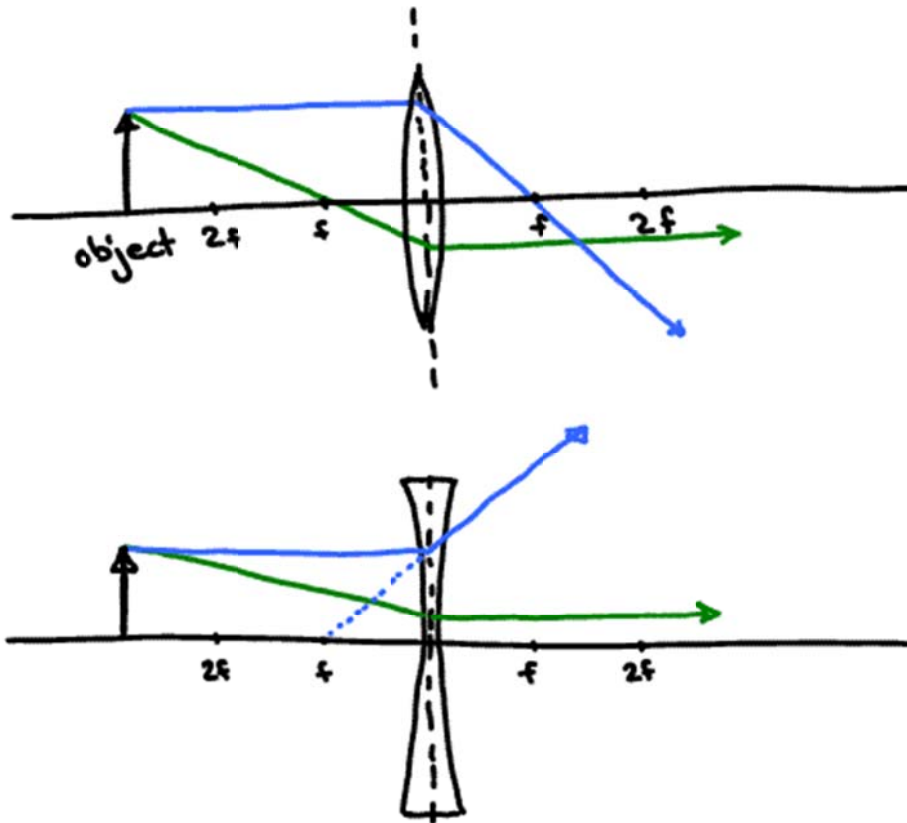
- Refract light vs reflecting light
- Use the change in refraction index between two media (from air to glass to air)

Lens Rules - Just like mirror rules, except for #3:

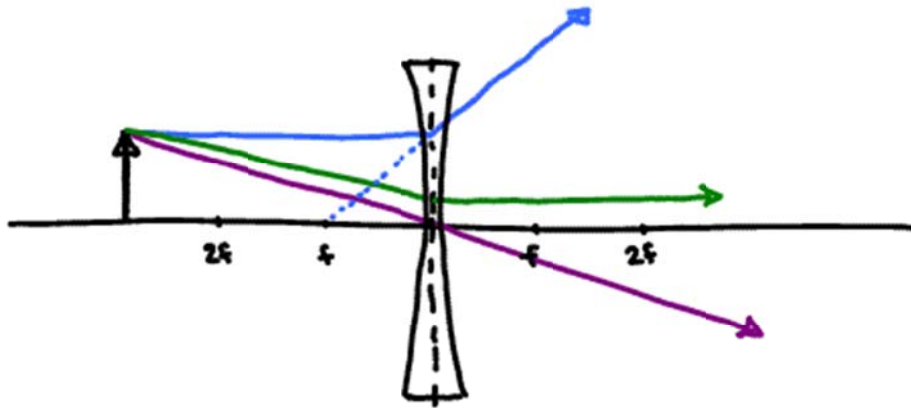
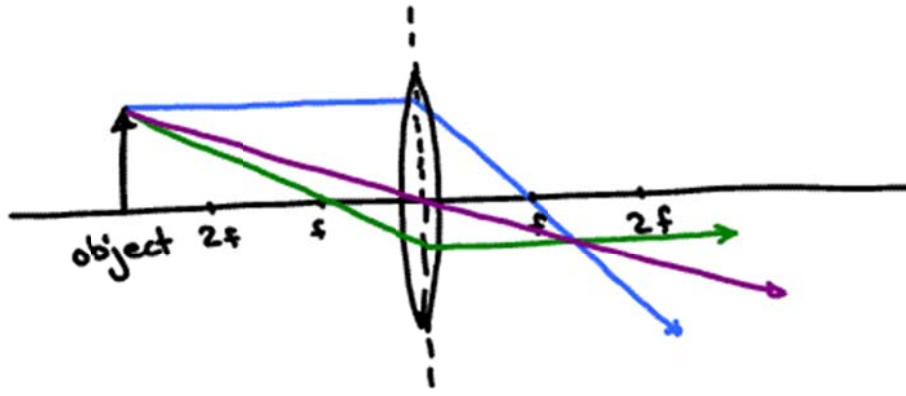
1. Parallel to principle axis, through the plane of the lens, then through (converging/convex lens) focal point or away (diverging/concave lens) from focal point.



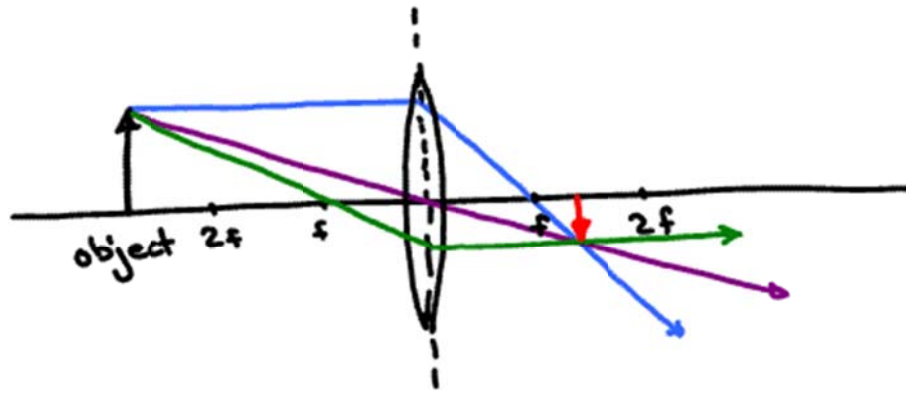
2. Starting from object, draw a line toward the lens which is colinear with focal point, then, once through the mirror, continues parallel to principal axis. ■



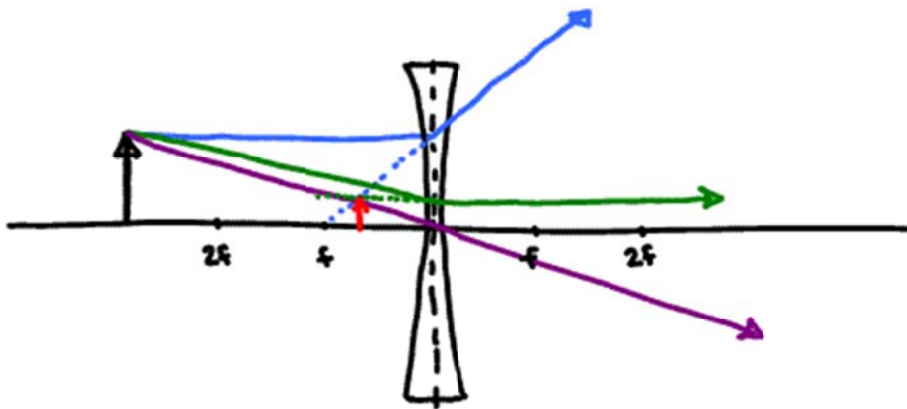
3. Starting from the object, draw a line which passes through the lens vertex, then continues straight. —



... The image forms where the refracted (Not THE INCIDENT) rays cross. *Note that you will have to extend refracted rays back to the object side to find the location of virtual images.*



Real
Inverted
Smaller



Virtual
Erect
Smaller