

Name \_\_\_\_\_  
Physics \_\_\_\_\_ Period \_\_\_\_

### CONCAVE/CONVEX LENSES

- I. Draw a ray diagram for each lens. Ray diagrams should be drawn to scale. Use a ruler.  
- draw a ray **parallel** to the center line to the lens THEN through **F**  
- draw a ray through **F** to the lens THEN **parallel** to the center line  
- draw a ray through **center** of lens
- II. Lens equation: Measure the object distance ( $d_o$ ) and focal length ( $f$ ). Using the lens equation, solve for the image distance ( $d_i$ ). Using the magnification equation, solve for the magnification of the image. Next, *measure* the image distance and image height.  
**Do your mathematical answers match the ray diagram?**

#### CONVEX (CONVERGING) LENS

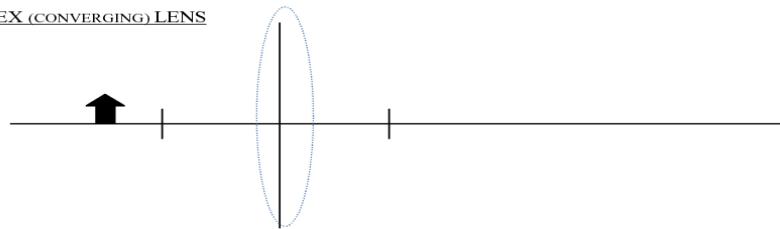


Image distance

Magnification

Based on Magnification

Ray Diagram

Image should be:

Image is:

VIRTUAL / REAL

UPRIGHT / INVERTED

SMALLER / BIGGER

#### CONCAVE (DIVERGING) LENS

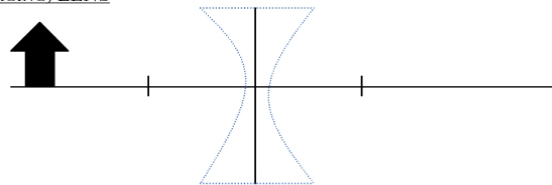


Image distance

Magnification

Based on Magnification

Ray Diagram

Image should be:

Image is:

VIRTUAL / REAL

UPRIGHT / INVERTED

SMALLER / BIGGER