

LENSES AND MIRRORS PRACTICE PROBLEMS

Solve each of the following questions in your notebook showing all your work. For each problem, find the image and describe its quality. To do this you should:

- Find image distance
- Find image magnification
- Real or virtual?
- Upright or inverted?

1. A 0.1 cm tall candle stands 2 cm in front of a convex lens with a focal length of 4 cm.
 - A. Find the image and describe its quality.
 - B. How tall is the image?
2. A 21 cm tall candle stands 4 cm in front of a concave lens with a focal length of 3 cm.
 - A. Find the image and describe its quality.
 - B. How tall is the image?
3. A candle is placed 24 cm in front of a concave mirror with a focal length of 12 cm. Find the image and describe its quality.
4. A candle is placed 12 cm in front of a convex mirror with a focal length of 6 cm. Find the image and describe its quality.
5. If you place an object 10 cm from a particular concave mirror, a virtual image forms behind the mirror. What can you infer about the focal point of the mirror? In other words, where is the focal point in relation to the mirror and object?
6. A lens is needed to create an inverted image twice as large as the object when the object is 7.0 cm from the lens. What focal length and type of lens is needed?

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