Lens and Mirror Super Test

Name:

/36000

Be sure that all questions contain the given info, formula, substitution and answer. Every number (except magnification) needs units throughout the question.

Formulas are on the board.

1. A candle is placed 5 cm from the vertex of a concave mirror that has a focal length of 10 cm.

a) Locate the position of the image by means of (i) a ray diagram /2000

(ii) the mirror equation. /4000

b) Find the magnification of the image. /3000

c) Describe the characteristics of the image (SALT) /2000

2. The magnification of an image is -2.35x. If the height of the object is 6.35 cm and is 8.50 cm from the lens, what is the focal length? /4000

3. How far would an object need to be placed from a mirror of focal length 10.0 cm if it is to produce an image which is 20.0 cm BEHIND the mirror? /4000

4. A 6.00 cm tall candle is placed 9.00 cm from a converging lens with a focal length of

8.00 cm. Determine the location of the image ( /4000)and the magnification ( /3000). Is the image upright or inverted (/1000)?

1. A glowing object that is 2.5 cm tall is placed 20.0 cm in front of a converging lens. If the focal length of the lens is 7.5 cm, determine:
2. The distance between the image and the lens. /4000
3. The height of the image. /3000
4. Whether the image is real or virtual. How do you know? /2000