

Review Sheet - OPTICS

REFLECTION:

I. Label the diagram:

center of curvature (C)

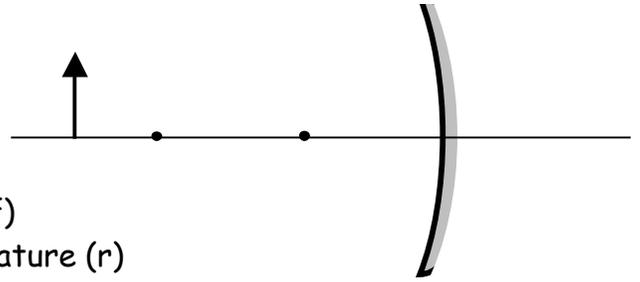
focal point (F)

principal axis (P)

vertex (V)

focal length (f)

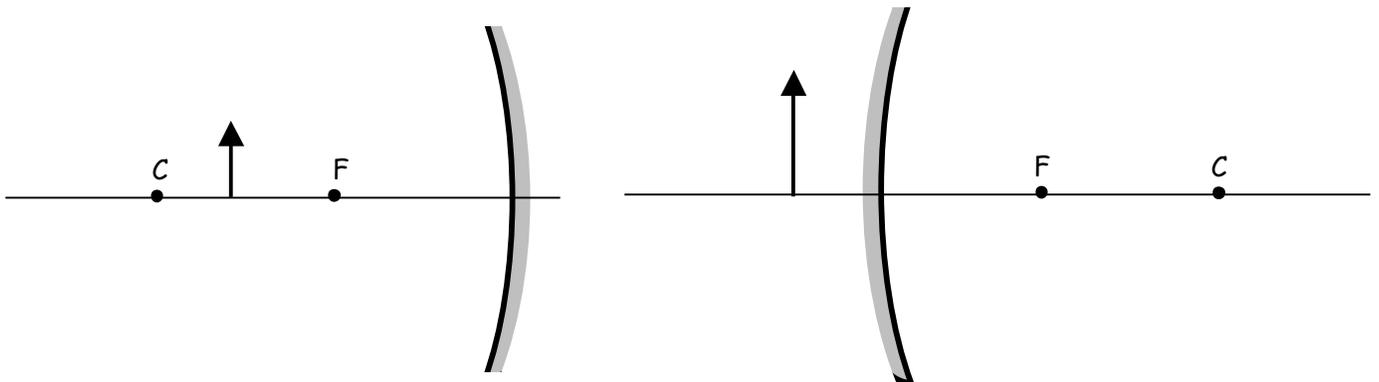
radius of curvature (r)



II. Matching: Answers may be used more than once.

- | | |
|---|---------------------|
| ___ 1. image in which rays of light only appear to pass through image point | a. concave |
| ___ 2. mirror that can reduce or enlarge image | b. convex |
| ___ 3. mirror that only reduces | c. plane |
| ___ 4. mirror in which image is always same size as object | d. all mirrors |
| ___ 5. type of image which is always inverted | e. convex & plane |
| ___ 6. diverging mirror | f. concave & convex |
| ___ 7. parallel incident light rays are reflected in different directions | g. diffuse |
| ___ 8. spherical mirror | h. real |
| ___ 9. image which can be projected on a screen | i. virtual |
| ___ 10. type of mirror which forms only virtual images | |
| ___ 11. type of image which is always erect | |
| ___ 12. type of image formed by plane mirrors | |
| ___ 13. most versatile type of mirror | |
| ___ 14. security mirrors in stores | |

Draw ray diagrams to locate images in these mirrors:



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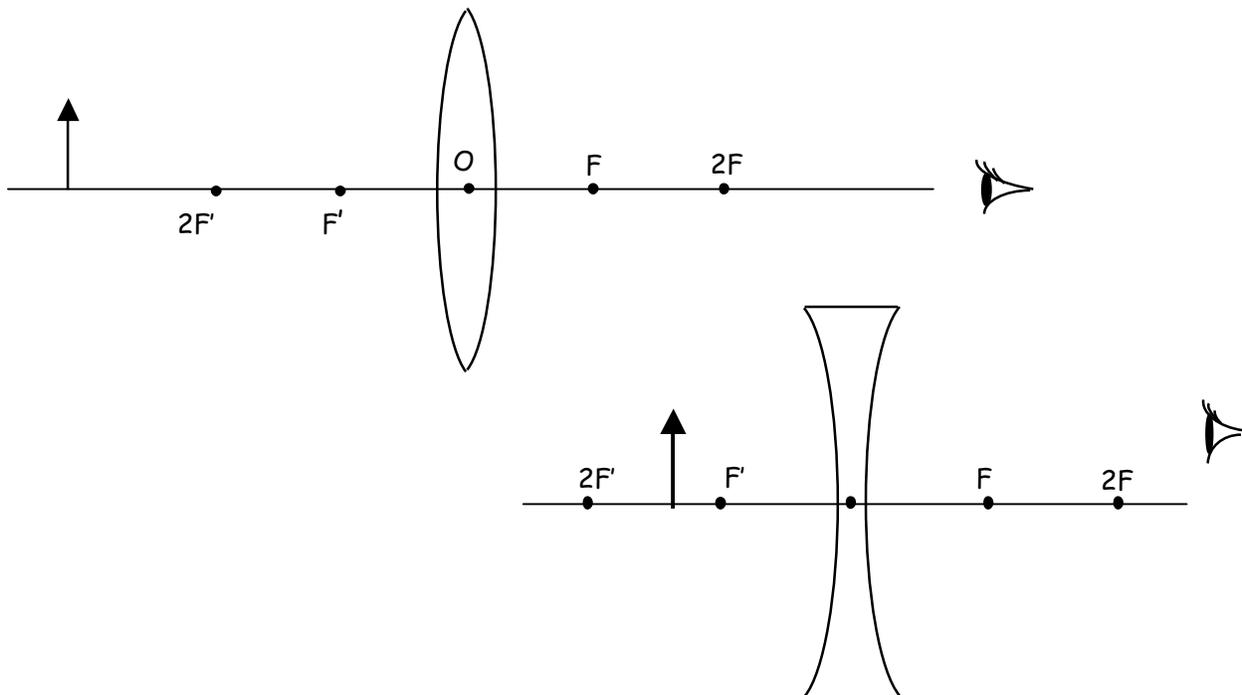
$\frac{1}{d_i} + \frac{1}{d_o} = \frac{1}{f}$	$\frac{h_i}{h_o} = \frac{-d_i}{d_o}$
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A concave mirror has a focal length of 25 cm. If an object is placed 62 cm from the mirror, where will the image be found?

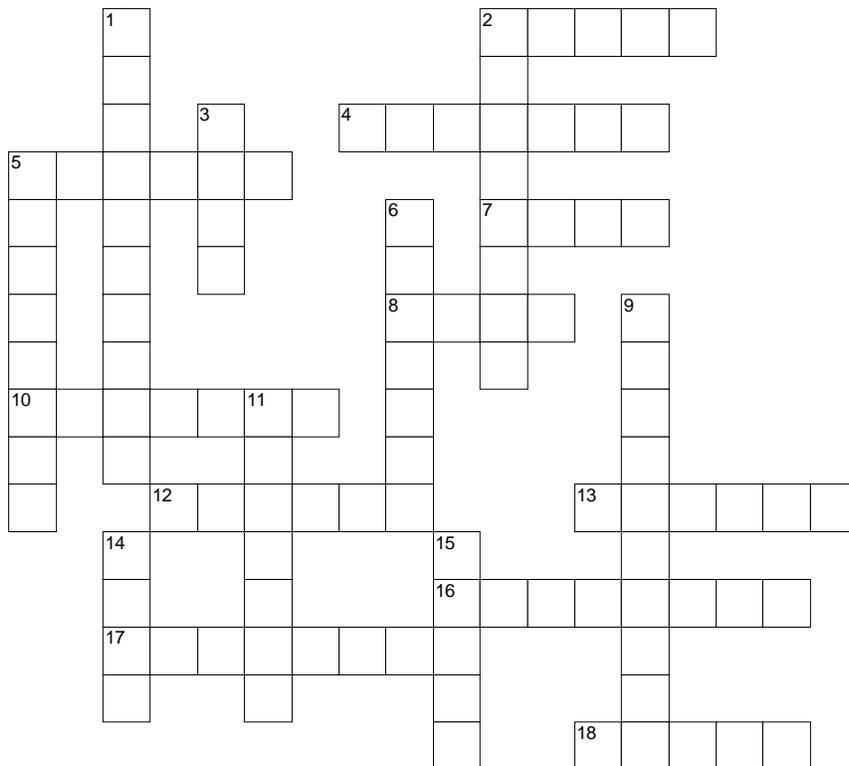
If the object is 5.4 cm high, how tall will the image be? What does the sign of this answer tell you?

REFRACTION:

Draw ray diagrams to locate images with these lenses:



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Across

- 2 ratio of speed of light in a vacuum to that in a medium is called _____ of refraction
- 4 Concave lenses form only _____ images
- 5 converging lens
- 7 image formed on opposite side of lens from object
- 8 image formed on opposite side of lens from object
- 10 lens similar to a convex mirror
- 12 caused by refraction of sunlight through hot layer of air
- 13 Light travels fastest in a _____.
- 16 In the mirror equations a _____ sign for d or f means in front of the mirror.
- 17 In the magnification equation, a _____ sign for height of the image means the image is inverted and real.
- 18 ratio of speed of light in a vacuum to that in a medium is called _____ of refraction

Down

- 1 a convex lens used with objects at a distance of less than one f
- 2 Total _____ reflection occurs when the angle of incidence is greater than the critical angle
- 3 A convex lens can form a virtual image when the object is _____ the lens.
- 5 angle necessary for total reflection
- 6 an Image never form on the _____ of a lens or mirror.
- 9 the bending of light rays as they pass obliquely into a new medium
- 11 Concave lenses form only _____ images
- 14 transparent object with at least one curved surface
- 15 The _____ of light waves depends on the medium.