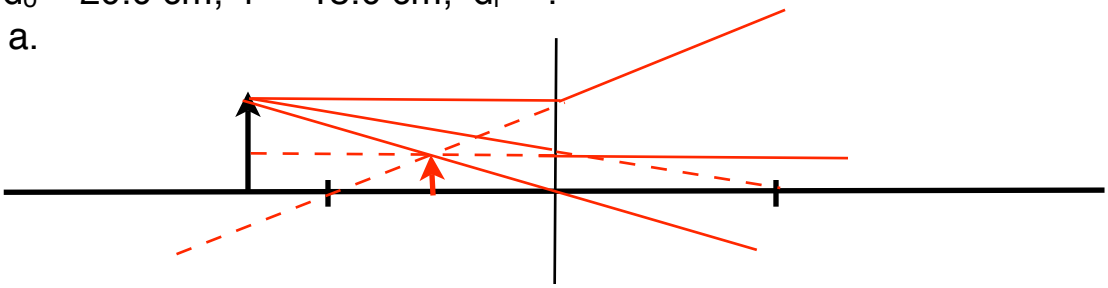
Diverging Mirrors Assignment:
Text pg. 377 #9-11

Diverging Mirrors Answers

9. d_o = 20.0 cm; f = -15.0 cm; d_i = ?

a.



b. $1/f = 1/d_i + 1/d_o$
$1/d_i = 1/f - 1/d_o$
$1/d_i = 1/(-15.0) - 1/(20.0)$
d_i = - 8.57 cm

10. f = -12.0 cm; h_o = 6.0 cm; d_o = 60.0 cm

a. d_i = ?
$1/f = 1/d_i + 1/d_o$
$1/d_i = 1/f - 1/d_o$
$1/d_i = 1/(-12.0) - 1/(60.0)$
d_i = - 10.0 cm

b. h_i = ?
$h_i / h_o = - d_i / d_o$
$h_i = - h_o \times d_i / d_o$
h_i = - (6.0)(-10.0)/(60.0)
h_i = 1.0 cm

11. f = -40.0 cm; d_o = 6.0 m (600 cm); d_i = ?
$1/f = 1/d_i + 1/d_o$
$1/d_i = 1/f - 1/d_o$
$1/d_i = 1/(-40.0) - 1/(600)$
d_i = - 38 cm

the image will be erect, and smaller (image characteristics of all images in a diverging mirror)