

Optics #2

p 844

MC 8, 9, 10

Concept 21

Online ① Image Produced by Diff
Concave mirror

② Ray Tracing for Concave
mirror

(2)

p 844 - Multiple Choice

(5)

8) Relationship b/w focal length + radius
of curvature?

(1)

$$f = R/2$$

- Concept

21)

A) which are true for real image?

- The light rays actually come from it
- The light rays from a point on object always converge to pass through single pt

(1)

B) which are true for virtual image?

- No light actually originates from it
- The light rays from a point on the object always diverge

- Online

① Images Produced by Different Concave mirrors

• Same object at different distance from 6 concave mirrors

A) Sort into Real vs Virtual

Real - outside f

Virtual - inside f

d = 10cm
f = 5cm

d = 20cm
f = 10cm

d = 15cm
f = 5cm

d = 5cm
f = 20cm

d = 10cm
f = 20cm

d = 15cm
f = 20cm

(2)

B) Sort into inverted vs upright

Real always inverted

upright always virtual

• Same as A

C) Rank based on magnification

$$m = \frac{h_i}{h_o} = -\frac{d_i}{d_o}$$

Closer to f, larger image ratio f to d

large
d = 15cm
f = 20cm

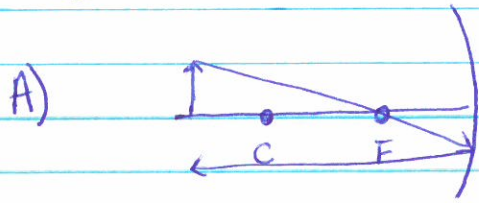
d = 10cm
f = 20cm

d = 5cm
f = 20cm

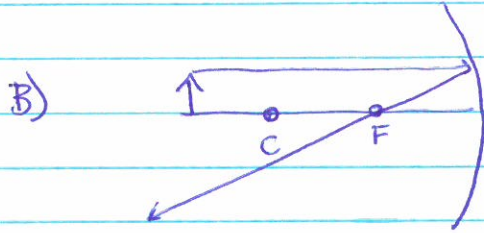
small
d = 10cm
f = 5cm
d = 20cm
f = 10cm

d = 15cm
f = 5cm

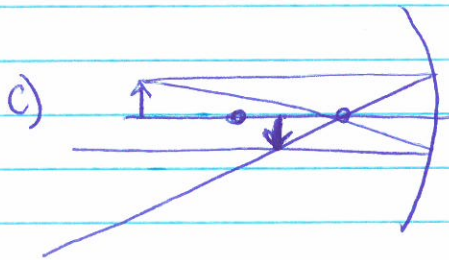
② Ray Tracing for a Concave mirror



in through F, out //



in //, out through F



draw image

(1)