Converging & Diverging Lenses Ray Diagrams

(1)

(2)

(3)
Draw a ray diagram for a 5.0-cm tall object placed 45.0 cm from a converging lens having a focal length of 15.0 cm.
(10) Draw a ray diagram for a 3.0-cm tall object placed 10.0 cm from a converging lens having a focal length of 15.0 cm.

(11) Draw a ray diagram for a diverging lens that has a focal length of -10.8 cm when an object is placed 32.4 cm from the lens's surface.

(12) Draw a ray diagram for an object placed 6.0 cm from the surface of a converging lens with a focal length of 12.0 cm.