

Section

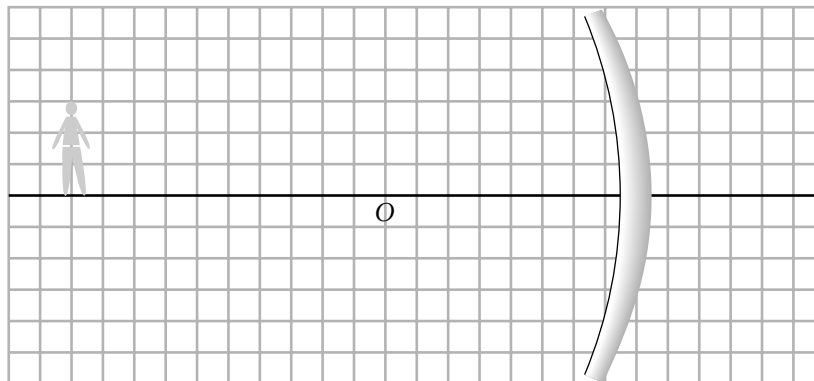
14-3

HOLT PHYSICS

Diagram Skills

Curved Mirrors

1. A 1.50 m tall child is in a mirror gallery at the amusement park. She is standing in front of a concave mirror with a radius of 4.00 m. She starts walking toward the mirror from a distance of 9.00 m, and she stops every meter to observe her image.



- a. Find the focal point of this mirror and label it *F*.
- b. Mark the child's locations 9.00 m, 5.00 m, and 1.00 m in front of the mirror, and label them *A*, *B*, *C*.
- c. Sketch ray diagrams to locate the image formed when the child is at *A*. Measure the distance from the image to the mirror and record it below.

Distance of *A*'s image = _____

- d. Repeat question c for the object at positions *B* and *C*.

Distance of *B*'s image = _____

Distance of *C*'s image = _____

2. Calculate the image location for the object at *A*, *B*, and *C* in item 1, using the mirror equation. Compare your results with your diagrams.

Distance of *A*'s image = _____

Distance of *B*'s image = _____

Distance of *C*'s image = _____