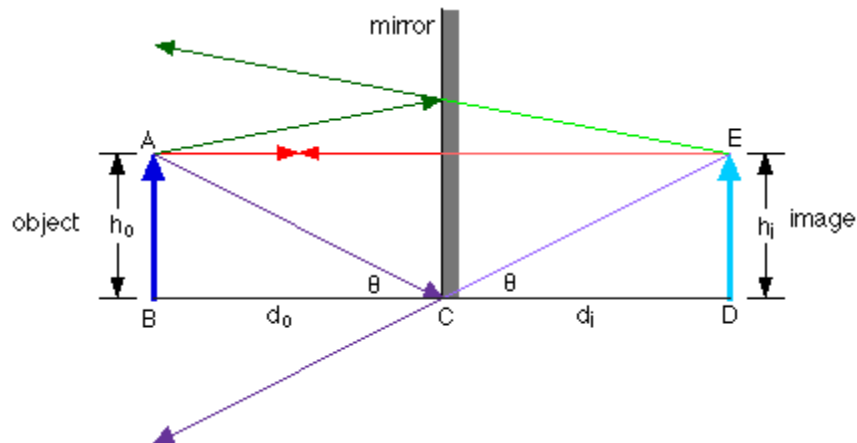## Answer on Question #46975, Physics, Optics

If a 4-m-tall child stands 2 m in front of a vertical plane mirror, the image of the child will be ------- m tall

Solution:

Consider an object placed a certain distance in front of a mirror, as shown in the diagram.

In a ray diagram, rays of light are drawn from the object to the mirror, along with the rays that reflect off the mirror. The image will be found where the reflected rays intersect.

Analyzing this a little further, it's easy to see that **the height of the image is the same as the height of the object**.

Answer: **4 m.**