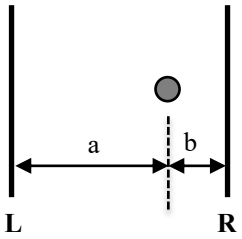
Infinity

The use of a parallel mirror system results in the formation of an infinite number of images aligned one behind another. In this activity, you will determine the distance from the right-most mirror (**R**) to the nearest images located to the right of that mirror when an object is placed between the two mirrors of the parallel mirror system.

Situation 1:

a = 5 cm, b = 2 cm

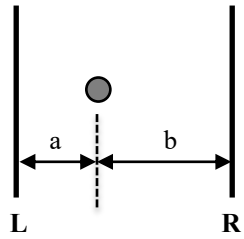
Image	Distance from R to Image (cm)
1	
2	
3	
4	
5	
6	
7	



Situation 2:

a = 3 cm, b = 8 cm

Image	Distance from R to Image (cm)
1	
2	
3	
4	
5	
6	
7	



Follow-up:
Considering only those images located to the right of the right-most mirror:

> Write an equation or two that relates the *distance of an image from the right-most mirror* (d) to the *number of the image* (N); that is, write an equation that expresses d as a function of N. You may find it easiest to derive an equation for odd-numbered values of N and a second equation for even-numbered values of N. Enjoy the challenge!