

Multiple Images in Mirrors

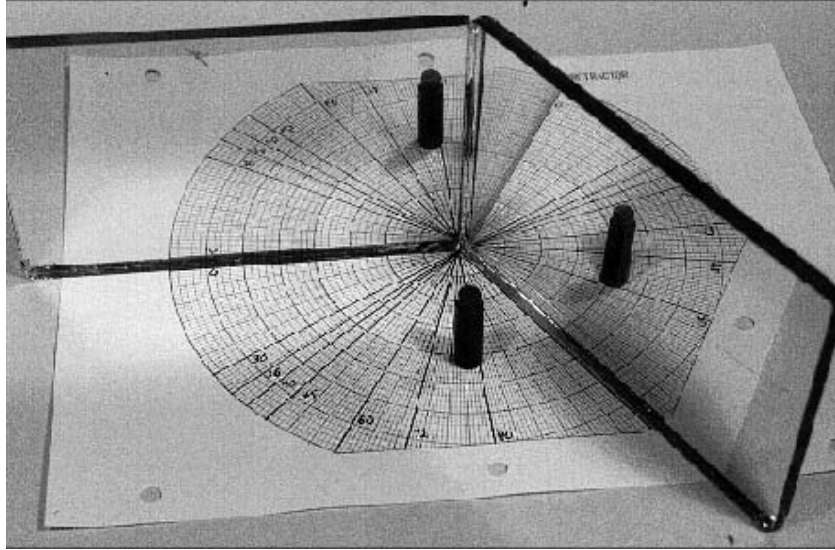
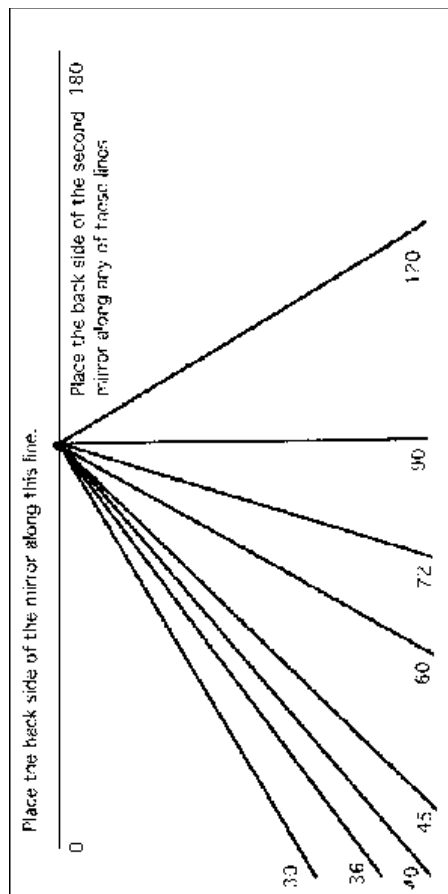


Figure 1

What You Need

- 1 protractor, for measuring angles (or use the one in this newsletter).
- 2 plain mirrors, hinged using masking tape
- 1 roll of masking tape
- 1 small, colourful object to place between the mirrors
- 1 toy kaleidoscope, if available



Try This!

1. Arrange two flat mirrors at an angle of 120° as in Figure 1. (Use a protractor to measure the angle, or use a copy of the angle sheet on the left).
2. Place a small, colourful object (such as a pen, a golf tee, or an eraser) about 10 cm in front of the mirrors.
3. Look into the mirrors. Count how many images you see.
4. Try smaller and smaller angles, and watch what happens to the number of images.
5. Look for a pattern connecting the number of images and the angle between the mirrors. To find out what the pattern is, set your mirrors at each of the angles in Table 1, and write down how many images you see when the mirrors are arranged at each of the angles.

Caution! When counting images, keep your head very still, so you don't accidentally count an image more than once.