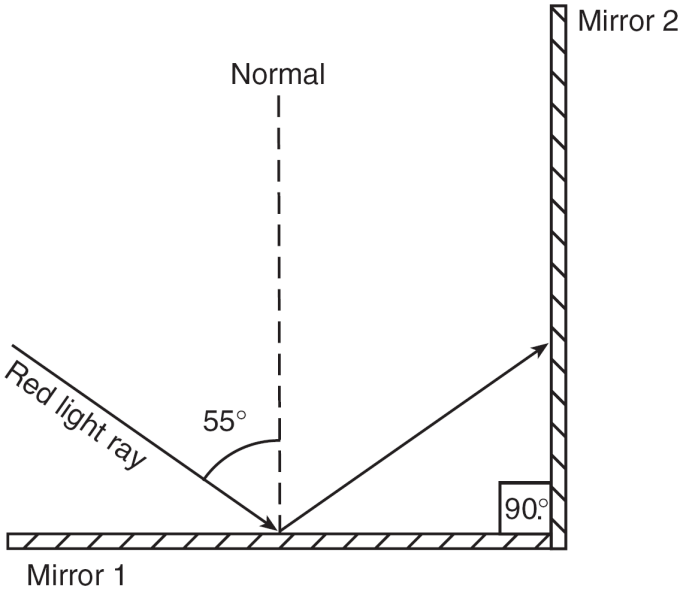
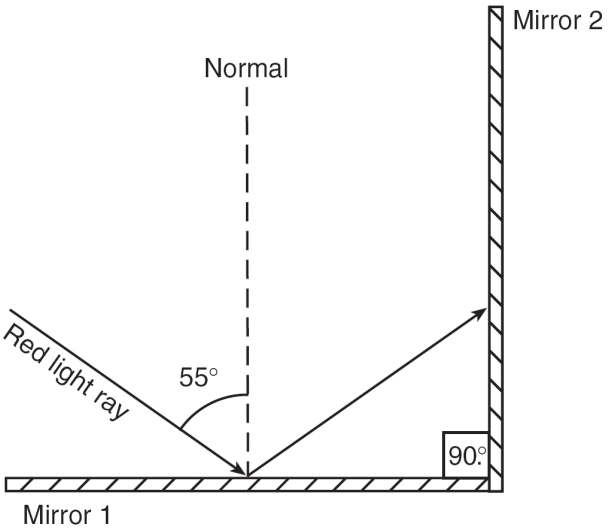
Name **Part 2 Review M**

Base your answers to questions **1** and **2** on the information below.

Two plane mirrors are positioned perpendicular to each other as shown. A ray of monochromatic red light is incident on mirror 1 at an angle of 55°. This ray is reflected from mirror 1 and then strikes mirror 2.



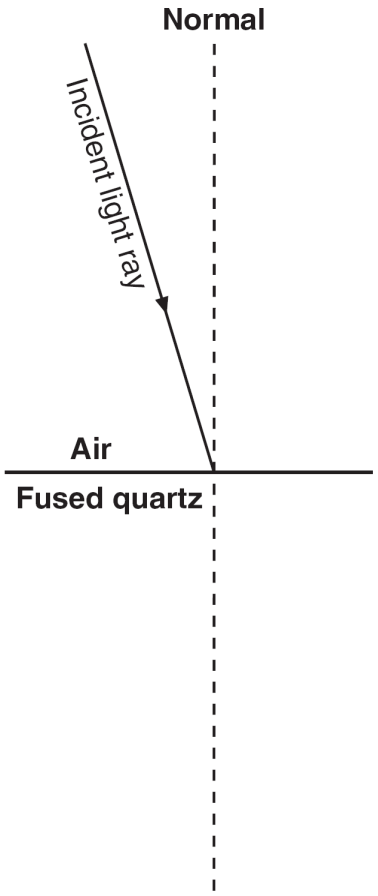
1. On the diagram below, use a protractor and a straightedge to draw the ray of light as it is reflected from mirror 2.



2. Determine the angle at which the ray is incident on mirror 2.

Part 2 Review M

Base your answers to questions **3** through **6** on the diagram below, which shows a light ray ($f = 5.09 \times 1014$ Hz) in air, incident on a boundary with fused quartz. At the boundary, part of the light is refracted and part of the light is reflected.



3. Using a protractor and straightedge, construct the reflected light ray on the diagram above.

4. Using a protractor and straightedge, construct the refracted light ray in the fused quartz on the diagram above.

5. Calculate the angle of refraction of the incident light ray. [Show all work, including the equation and substitution with units.]

6. Using a protractor, measure the angle of incidence of the light ray at the air-fused quartz boundary.