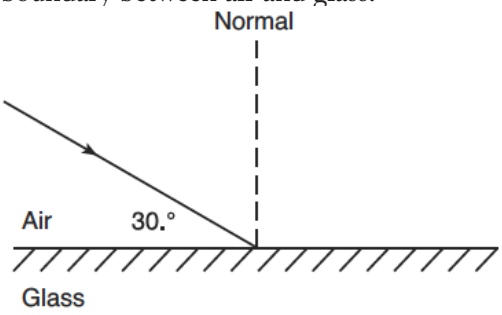
Name: _____ Period: _____

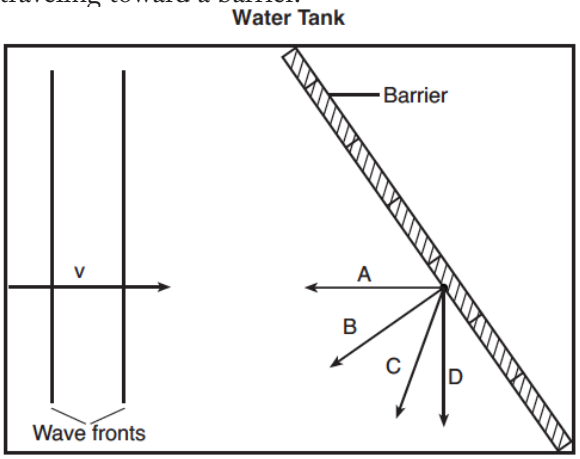
Waves-Reflection

1. The diagram below represents a light ray striking the boundary between air and glass.



What would be the angle between this light ray and its reflected ray?
1. 30°
2. 60°
3. 120°
4. 150°

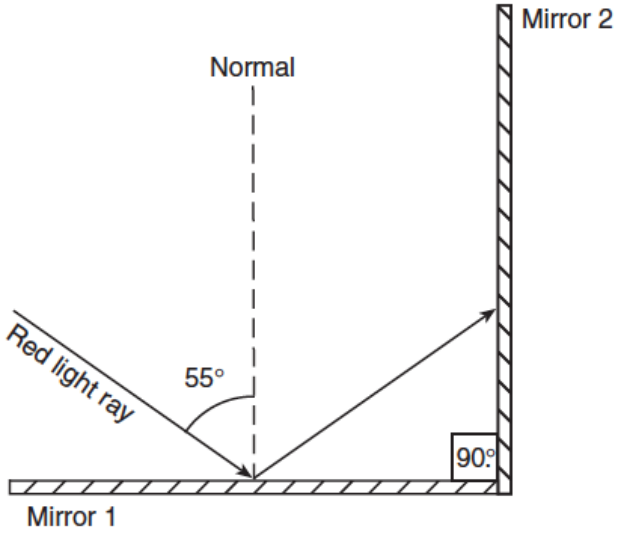
2. The diagram below represents a view from above of a tank of water in which parallel wave fronts are traveling toward a barrier.



Which arrow represents the direction of travel for the wave fronts after being reflected from the barrier?
1. A
2. B
3. C
4. D

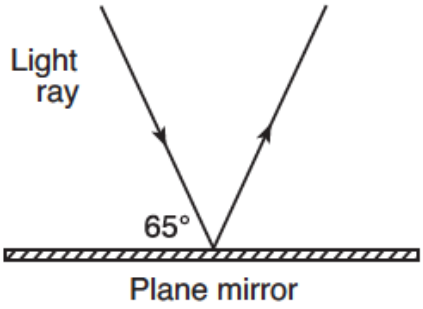
3. A sonar wave is reflected from the ocean floor. For which angles of incidence do the wave's angle of reflection equal its angle of incidence?
1. angles less than 45°, only
2. an angle of 45°, only
3. angles greater than 45°, only
4. all angles of incidence

4. 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.



Determine the angle at which the ray is incident on mirror 2 and label the angle on the diagram (in degrees). On the diagram, use a protractor and straightedge to draw the ray of light as it is reflected from mirror 2.

5. The diagram below represents a light ray reflecting from a plane mirror.



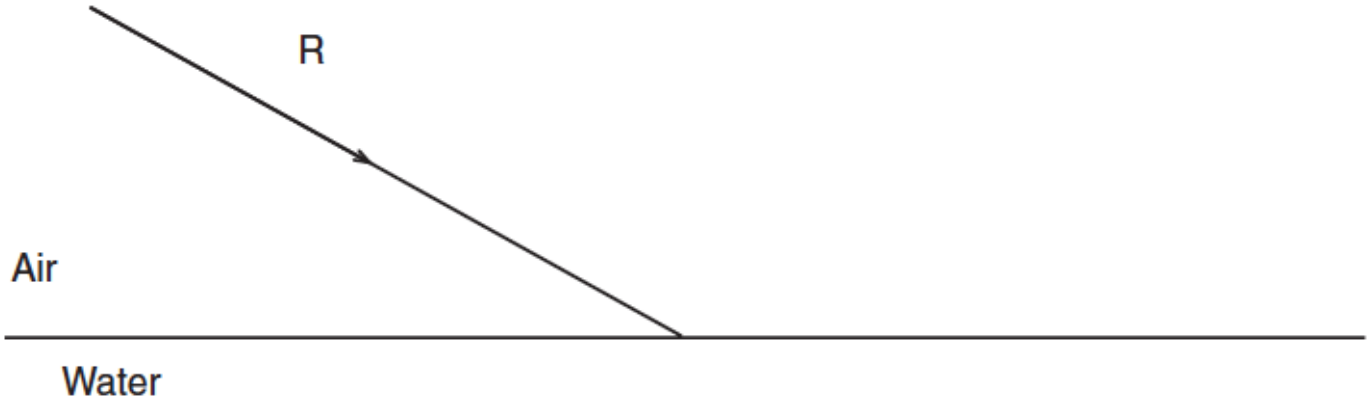
The angle of reflection for the light ray is
1. 25°
2. 35°
3. 50°
4. 65°

Name: _____ Period: _____

Waves-Reflection

Base your answers to the following questions on the information and diagram below:

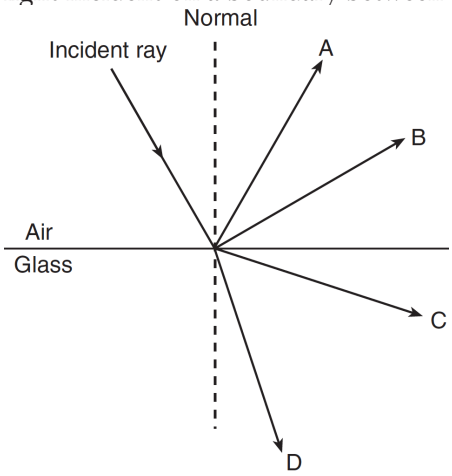
In the diagram, a light ray, R, strikes the boundary of air and water.



6. Using a protractor, determine the angle of incidence.

7. Using a protractor and straightedge, draw the reflected ray on the diagram above.

8. The diagram below shows a ray of monochromatic light incident on a boundary between air and glass.



Which ray best represents the path of the reflected light ray?

1. A
2. B
3. C
4. D