Name _____ **A** Date _____

Regents Physics Reflection/Refraction WS#2

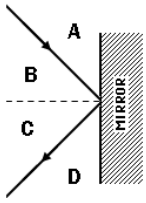
Period _____ Mrs. Nadworny

Law of Reflection

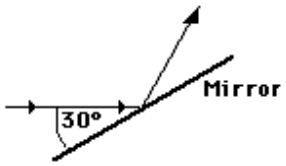
1. A sonar wave is reflected from the ocean floor. For which angles of incidence do the wave's angles of reflection equal its angle of incidence?

   (A) angles less than 45^0, only
   (B) angles great than 45^0, only
   (C) an angle of 45^0, only
   (D) all angles of incidence

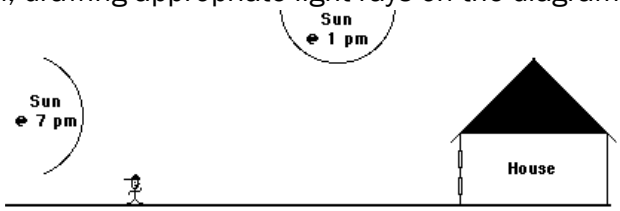
2. Consider the diagram below. Which one of the angles (A, B, C, or D) is the angle of incidence? Which one of the angles is the angle of reflection? Explain your answer.



3. A ray of light is incident towards a plane mirror at an angle of 30-degrees with the mirror surface. What will be the angle of reflection?



4. Why do windows of distant houses appear to reflect the sun only when rising or setting? Use the diagram below to explain, drawing appropriate light rays on the diagram.



5. Explain why emergency vehicles such as ambulances are often marked on the front hood with reversed lettering (e.g., ECNALUBMA).

6. If Suzie stands 3 feet in front of a plane mirror, how far from her will her image *appear* to be located? Why?

7. If a toddler crawls towards a mirror at a rate of 0.25 m/s, then at what speed will the toddler ***and*** the toddler's image approach each other?