PHYSICS IN MOTION
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Unit 6K
Reflection
Practice Problems

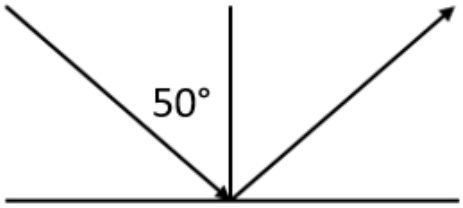
Name:

Date:

Work each of the following problems. SHOW ALL WORK.

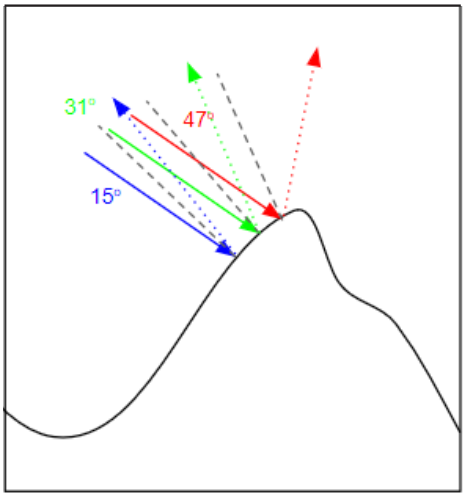
1. Observe five objects around you. List the objects and decide whether they reflect light as diffuse or specular.

2. Complete the diagram below with the three missing angles:



3. A child stands 2 meters in front of a plane mirror. How far is the child from his image?

4. Three initially parallel rays of light are incident at slightly different points on a bumpy surface, as indicated in the figure to the right. The angles of incidence are 15° for ray A (blue in figure), 31° for ray B (green), and 47° for ray C (red).



(a) What are the angles of reflection for the three rays?

(b) Will the three rays remain parallel after reflection?

(c) Sketch the paths of the reflected rays on the diagram.

questions continued on next page

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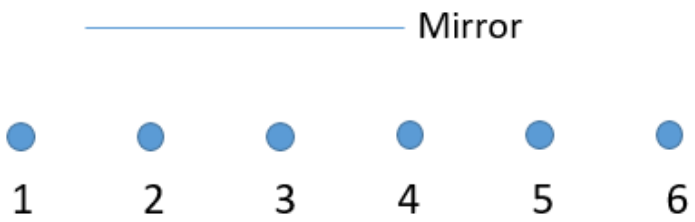
5. **Draw a diagram of you standing in front of a plane mirror. Use the law of reflection to determine the smallest mirror that can be placed in front of you to see your reflection from the top of your head to the bottom of your feet. Hint: The reflected rays must go to your eyes!**

6. **Using the diagram below, determine...**



(a) Who can student #6 see?

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(b) Who can student #3 see?

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