PHYSICS IN MOTION
gpb.org/physics-motion

Unit 6G
Polarization
Practice Problems

Name:

Date:

Work each of the following problems. SHOW ALL WORK.

1. What would cause a greater decrease in intensity of an already polarized light ray- a filter oriented at 15° to the path of the light ray, or a filter oriented at 75° to the path of the light ray?

   _____

   _____

2. An already polarized ray with an intensity of 15 W/m² encounters a filter oriented at 60° to its path. What is the resulting intensity of the light ray?

3. An already polarized ray with an intensity of 10 W/m² encounters a filter oriented at 30° to its path. What is the resulting intensity of the light ray?

4. At what angle is the polarization filter oriented relative to the motion of light if it reduces the intensity of light to 60% of the level with which it entered the filter?

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5. An unpolarized light ray has an intensity of 12 W/m².

    a. What is the intensity of the light ray after it passes through a horizontally oriented filter?

    _____

    _____

    b. What is the intensity after the light passes through a second filter that is oriented at a 45° angle to the first?

    C. What is the intensity after the light passes through a second filter that is oriented at a 45° angle to the first?

    _____

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