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Grades Communication
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← PHYS 1260, section 001, Fall 2020

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East Carolina University

Chapter 23 (Homework)

QUESTION

1	2	3	4	5	6	7
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POINTS

$-\frac{1}{2} \quad -\frac{1}{3} \quad -\frac{1}{1} \quad -\frac{1}{1} \quad -\frac{1}{1} \quad -\frac{1}{1} \quad -\frac{1}{1}$

TOTAL SCORE

-/10	0.0%
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Due Date

THU, OCT 29, 2020

11:59 PM EDT

 Request Extension

Description



Assignment Submission & Scoring

Assignment Submission

For this assignment, you submit answers by question parts. The

number of submissions remaining for each question part only changes if you submit or change the answer.

Assignment Scoring

Your last submission is used for your score.

1. [-/2 Points]

DETAILS

COLFUNPHYS1 23.P.002.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

TV channel 2 broadcasts in the frequency range 50 to 58 MHz. What is the corresponding range of wavelengths? (Let us denote the minimum and maximum wavelengths by $\lambda_{\min}$ and $\lambda_{\max}$, respectively.)

$\lambda_{\min} =$

$\lambda_{\max} =$

2. [-/3 Points]

DETAILS

COLFUNPHYS1 23.P.003.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

FM radio station KRTH in Los Angeles broadcasts on an assigned frequency of 101 MHz with a power of 50,000 W.

(a) What is the wavelength of the radio waves produced by this station?

(b) Estimate the average intensity of the wave at a distance of 47.9 km from the radio transmitting antenna. Assume for the purpose of this estimate that the antenna radiates equally in all directions, so that the intensity is constant over a hemisphere centered on the antenna.

(c) Estimate the amplitude of the electric field at this distance.

3. [-/1 Points]

DETAILS

COLFUNPHYS1 23.P.013.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Find the index of refraction in a medium in which the speed of light is 2.20×10^8 m/s.

4. [-/1 Points]

DETAILS

COLFUNPHYS1 23.P.026.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Light reflected from the front surface of a **densest flint** windowpane ($n = 1890$) has an intensity I_1 . Light entering the glass undergoes multiple reflections. Let I_2 be the intensity of light reflected after only one reflection at the back surface of the glass. Find the ratio I_2/I_1 . Assume normal incidence.

5. [-/1 Points]

DETAILS

COLFUNPHYS1 23.P.028.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

A light ray is incident on the outer surface of the **polyethylen** at an angle of 43.9° with the normal. Find the angle the transmitted ray makes with the normal.

6. [-/1 Points]

DETAILS

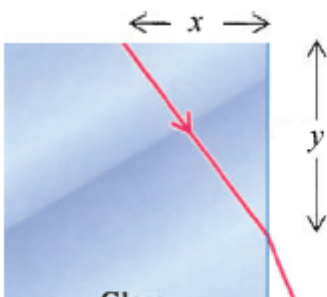
COLFUNPHYS1 23.P.032.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Find the refractive index of the glass in the figure below. (Take $\theta = 21^\circ$, $y = 7.8$ cm, and $x = 4.6$ cm.)





7. [-/1 Points]

DETAILS

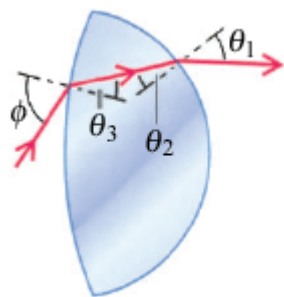
COLFUNPHYS1 23.P.033.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

A light ray passes through a glass lens, shown in cross section in the figure below. Find the angle of incidence ϕ . (Take $\theta_1 = 34^\circ$, $\theta_2 = 16^\circ$, and $\theta_3 = 26^\circ$.)



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