NEW JERSEY PHYSICS · NEW JERSEY

New Jersey Physics

Practice Test

Unit 4: Light and Modern Physics

10 Questions

Original practice test based on the New Jersey curriculum. Work through each question, then check your answers at the end.

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

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Question 1

Use $h = 6.63 \times 10^{-34}$ J s. A photon of frequency 1.0×10^{14} Hz has energy about

A) 6.63×10^{-20} J

B) 6.63×10^{-48} J

C) 6.63×10^{-34} J

D) 1.51×10^{20} J

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Question 2

An object 5 cm tall is magnified by 4. Its image height, in centimeters, is ____

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Question 3

Light of wavelength 450 nm in air enters glass of refractive index 1.5. Its wavelength in glass, in nanometers, is ____

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Question 4

A sample starts with 48 g of a radioactive isotope. After two half lives, the mass remaining, in grams, is ____

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Question 5

Total internal reflection can occur only when light travels from a medium of

A) lower to higher refractive index

B) higher to lower refractive index

C) equal refractive index

D) zero refractive index

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Question 6

The color of light with the longest wavelength in the visible spectrum is

A) violet

B) blue

C) green

D) red

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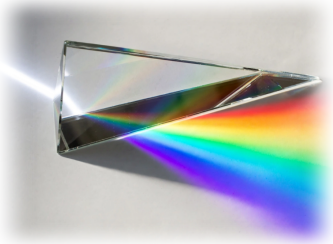

Question 7

The energy of a photon increases when its

A) wavelength increases

B) speed decreases

C) amplitude decreases

D) frequency increases

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Question 8

A ray hits a mirror at incidence angle 25 degrees. The reflection angle, in degrees, is ____

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Question 9

Nuclear power plants in common use get energy mainly from

A) fusion

B) photoelectric emission

C) refraction

D) fission

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Question 10

An electron in an atom absorbs a photon and moves to a

A) lower energy level

B) nucleus

C) different element

D) higher energy level

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ANSWER KEY

1. A
2. 20
3. 300
4. 12
5. B
6. D
7. D
8. 25
9. D
10. D

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