ALASKA PHYSICS · UNIT 4 · 10 QUESTIONS

Light and Modern Physics — Practice Test

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.

1 **A sample of 64 g of a radioactive material has a half life of 3 days. After 9 days, the mass remaining is**

- A 32 g
- B 16 g
- C 8 g
- D 21.3 g

Understand It with Pulse | Flag a mistake

2 **Of alpha, beta, and gamma radiation, the most penetrating is**

- A alpha
- B beta
- C gamma
- D none

Understand It with Pulse | Flag a mistake

3 **Nuclear fission is the**

A splitting of a heavy nucleus

B joining of light nuclei

C burning of a fuel

D decay of an electron

Understand It with Pulse | Flag a mistake

4 **Light of frequency 4×10^{14} Hz travels at 3.0×10^{8} m/s. Its wavelength, in nanometers, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A sample of 128 g of a radioactive material has a half life of 4 hours. After 12 hours, the mass remaining, in grams, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A photon of energy 6.0 eV hits a metal with work function 2.0 eV. The maximum kinetic energy of an emitted electron, in electron volts, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **A ray of light hits a mirror at an angle of incidence of 60 degrees. The angle of reflection, in degrees, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **A diverging lens always forms an image that is**

A real and inverted

B virtual, upright, and smaller

C real and upright

D virtual and inverted

Understand It with Pulse | Flag a mistake

9 **When light enters a denser material at an angle, it bends**

A away from the normal

B toward the normal

C not at all

D back on itself

Understand It with Pulse | Flag a mistake

10 **A spectrum with dark lines against a bright background is called an**

A emission spectrum

B continuous spectrum

C absorption spectrum

D diffraction spectrum

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	C	**5.**	16	**9.**	B
2.	C	**6.**	4	**10.**	C
3.	A	**7.**	60		
4.	750	**8.**	B		

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