Comparing Light Output per Absorbed Photon

Scoring guide · one credit per question · review written work against each rubric

Comparing Light Output per Absorbed Photon

Question 1

Choice (1)

P emits 12 for 20 absorbed. Q emits eight for 20 absorbed.

Question 2

P emits 12 × 2 = 24 units. Q emits 8 × 3 = 24 units.

Question 3

The energy totals match because each Q photon carries more energy. P emits 12 photons and Q emits eight. The energy meter alone does not give the count.

Question 4

The detector collects 24 × 1/4 = 6 energy units from P and 24 × 1/2 = 12 from Q. Divide P’s reading by 1/4 and Q’s by 1/2 to recover 24 emitted units for each coating.