Separating Model Radiation With Two Screens

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

Separating Model Radiation With Two Screens

Question 1

Choice (2)

P stops alpha particles while passing gamma photons, so its reading gives the gamma contribution.

Question 2

The no-screen total is 80, and 50 comes from gamma photons. The other 80 − 50 = 30 comes from alpha particles.

Question 3

Q passes half of each type. Half of any two contributions that add to 80 will add to 40 after Q.

Question 4

P removes all alpha particles. Half of the gamma contribution remains after Q, giving 50/2 = 25 gamma events.

Question 5

Both readings contain the same background. Adding Q reduces the gamma count by 60 − 35 = 25. That is half of the gamma count with P alone, so that gamma count was 50. The background is 60 − 50 = 10.