FREE REVISION PACK

Projectile Motion

Pearson Edexcel International Advanced Level Physics · Unit 1 (WPH11) · Specification points 7

Easy | Multiple choice · past-paper questions

4	4	≈ 5 min
QUESTIONS	TOTAL MARKS	SUGGESTED TIME*

Contents

Q	LEVEL	FOCUS	SOURCE	MARKS
1	Easy	Horizontal distance of a projectile	Edexcel IAL June 2019 · Unit 1 · Q4	1 mark
2	Easy	Time to fall from a table	Edexcel IAL June 2025 · Unit 1 · Q3	1 mark
3	Easy	Velocity components of a projectile	Edexcel IAL October 2025 · Unit 1 (alternative paper) · Q6	1 mark
4	Easy	Two objects falling in a vacuum	Edexcel IAL June 2021 · Unit 1 · Q7	1 mark

Key ideas to have ready

- Treat horizontal and vertical motion separately; they share only the time.
- With no air resistance, horizontal velocity is constant and vertical acceleration is g.
- Time of flight is set by the vertical motion alone, not by mass or horizontal speed.
- At the top of the path the vertical velocity is zero, but the horizontal velocity is not.

How to use this pack

1. The questions are grouped into levels (Easy). Work through them in order, and check your answers at the end of each level before moving on.
2. Every question is multiple choice with one correct answer. Write down your working anyway; that is how you find mistakes.
3. The separate mark scheme uses the same numbers and explains every answer.

Levels are based on how students did in Pearson's examiner reports where that information exists, plus our own difficulty rating. *About 1.5 minutes per question.

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Easy

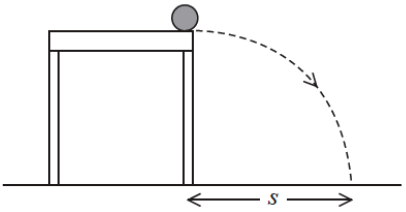
Definitions and one-step ideas. Most students get these right.

Questions 1–4

Choose **one** answer for each question and put a cross in the box next to it.

Edexcel IAL June 2019 · Unit 1 · Q4

1 A ball rolls off a table with a horizontal velocity of $1.2\,\text{m s}^{-1}$. The ball takes $0.9\,\text{s}$ to reach the ground and lands a distance s from the table as shown.



Which of the following expressions could be used to determine the value of s in metres?

☒ **A** $\dfrac{1.2^2}{2 \times 9.81}$

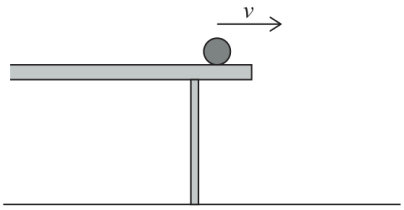
☒ **B** 1.2×0.9

☒ **C** $\frac{1}{2} \times 9.81 \times 0.9^2$

☒ **D** $(1.2 \times 0.9) + (\frac{1}{2} \times 9.81 \times 0.9^2)$

Edexcel IAL June 2025 · Unit 1 · Q3

2 The diagram shows a ball of mass m moving at speed v along a horizontal table.



The ball leaves the table. The time taken between the ball leaving the table and landing on the floor is t.

A second ball of mass $2m$ moves at speed $2v$ along the table.

Which of the following gives the time taken between the second ball leaving the table and landing on the floor?

☒ **A** $2t$

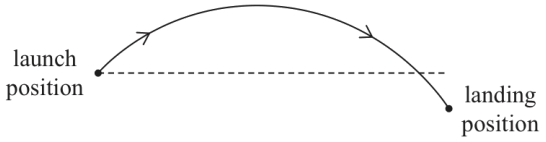
☒ **B** t

☒ **C** $\dfrac{t}{2}$

☒ **D** $\dfrac{t}{4}$

Edexcel IAL October 2025 · Unit 1 (alternative paper) · Q6

3 The path of a projectile is shown.



The projectile landed at a height lower than the height from which it was launched.

Assuming there is no air resistance acting on the projectile, which of the following is a correct statement?

A At the maximum height, the horizontal velocity is a minimum.

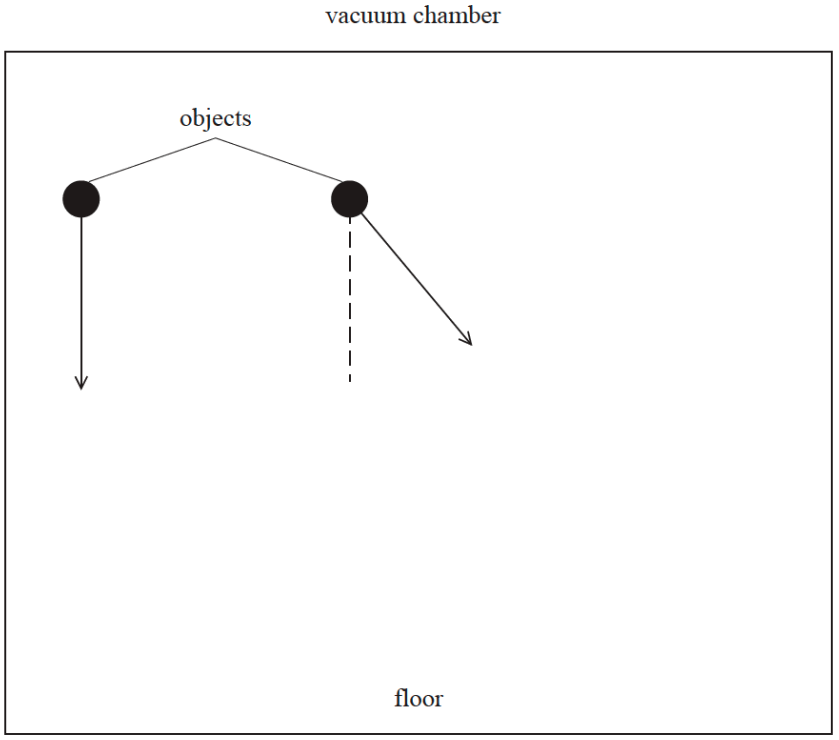
B At the maximum height, the vertical velocity is a maximum.

C The initial horizontal velocity is equal to the final horizontal velocity.

D The initial vertical velocity is equal to the final vertical velocity.

Edexcel IAL June 2021 · Unit 1 · Q7

4 Two objects with the same initial speed fall from the same height in a vacuum chamber, as shown. The arrows in the diagram show initial directions of travel of the objects.



Which of the following quantities are **not** the same for both objects?

☒ **A** The accelerations of the objects during the fall.

☐ **B** The velocities of the objects as they reach the floor.

☒ **C** The increase in the speeds of the objects during the fall.

☐ **D** The kinetic energies of the objects as they reach the floor.

End of questions. Check your answers with the matching mark scheme. More free packs and 1-to-1 tuition: **www.getbetteratphysics.co.uk**