

PHYSICS (REVISED)

Higher Grade—PAPER I

Thursday, 14th May—9.30 a.m. to 11.00 a.m.

READ CAREFULLY

- All questions should be attempted.
- Use the approximation $g = 10 \text{ m s}^{-2}$ or $g = 10 \text{ N kg}^{-1}$.
Any other data required will be found in the Science Data Booklet (1982 edition) provided.

SECTION A (questions 1–30)

- Answer these questions on the answer sheet provided.
- Check that the answer sheet is for Physics (Revised) Higher I (Section A).
- Fill in the details required on the answer sheet.
- Rough working, if required, should be done only on this question paper, or on the first two pages of the answer book provided—NOT on the answer sheet.
- For each question there is only ONE correct answer.
- In this Section answer by indicating the choice A, B, C, D or E by a stroke made in INK in the appropriate place in the answer sheet—

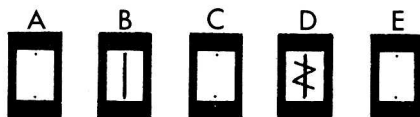
SAMPLE QUESTION FOR QUESTIONS 1–30

The momentum of a body is the product of

- A mass and velocity squared
 B mass and velocity
 C mass and acceleration
 D force and velocity
 E force and displacement.

The correct answer is B—mass and velocity. A **heavy** vertical line should be drawn joining the two dots in the appropriate box in the column headed B as shown in the example below.

If after you have recorded your answer you decide that you have made an error and wish to make a change, you should cancel the original answer and put a vertical stroke in the box you now consider to be correct. Thus, if you want to change an answer D to an answer B, your answer sheet would look like this:



If you want to change back to an answer which has already been scored out, you should enter a tick (✓) to the RIGHT of the box of your choice, thus:

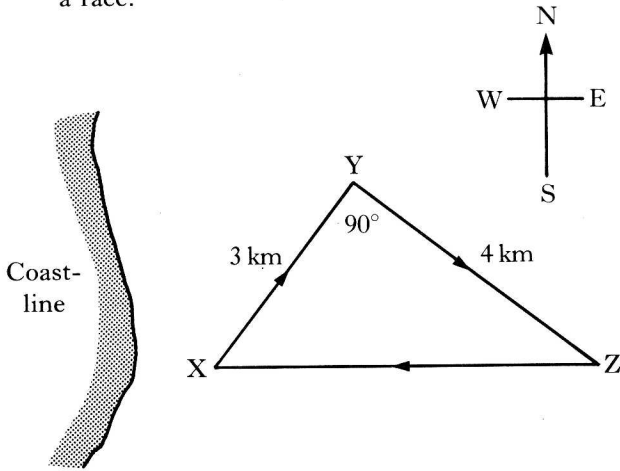
**SECTION B (questions 31–37)**

- Answer these questions in the answer book provided.
- Fill in the details on the front of the answer book.
- Enter the question number clearly in the margin beside each answer.
- Care should be taken not to give an unreasonable number of significant figures in the final answers to calculations.

SECTION A

Answer questions 1–30 on the answer sheet.

1. A yacht follows the course shown below during a race.



The race starts and finishes at X. Which entry in the table below gives the displacement of the yacht at position Z relative to the start; and the distance covered up to position Z?

	<i>Displacement</i>	<i>Distance</i>
A	5 km due East	5 km
B	7 km due East	5 km due East
C	5 km	7 km due East
D	7 km due East	7 km
E	5 km due East	7 km

2. A ball is thrown vertically upwards from ground level. When it falls to the ground, it bounces several times before coming to rest. Which one of the following velocity–time graphs represents the motion of the ball from the instant it leaves the thrower’s hand until it hits the ground for a second time?

