

© International Baccalaureate Organization 2026

All rights reserved. No part of this product may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without the prior written permission from the IB. Additionally, the license tied with this product prohibits use of any selected files or extracts from this product. Use by third parties, including but not limited to publishers, private teachers, tutoring or study services, preparatory schools, vendors operating curriculum mapping services or teacher resource digital platforms and app developers, whether fee-covered or not, is prohibited and is a criminal offense.

More information on how to request written permission in the form of a license can be obtained from <https://ibo.org/become-an-ib-school/ib-publishing/licensing/applying-for-a-license/>.

© Organisation du Baccalauréat International 2026

Tous droits réservés. Aucune partie de ce produit ne peut être reproduite sous quelque forme ni par quelque moyen que ce soit, électronique ou mécanique, y compris des systèmes de stockage et de récupération d'informations, sans l'autorisation écrite préalable de l'IB. De plus, la licence associée à ce produit interdit toute utilisation de tout fichier ou extrait sélectionné dans ce produit. L'utilisation par des tiers, y compris, sans toutefois s'y limiter, des éditeurs, des professeurs particuliers, des services de tutorat ou d'aide aux études, des établissements de préparation à l'enseignement supérieur, des fournisseurs de services de planification des programmes d'études, des gestionnaires de plateformes pédagogiques en ligne, et des développeurs d'applications, moyennant paiement ou non, est interdite et constitue une infraction pénale.

Pour plus d'informations sur la procédure à suivre pour obtenir une autorisation écrite sous la forme d'une licence, rendez-vous à l'adresse <https://ibo.org/become-an-ib-school/ib-publishing/licensing/applying-for-a-license/>.

© Organización del Bachillerato Internacional, 2026

Todos los derechos reservados. No se podrá reproducir ninguna parte de este producto de ninguna forma ni por ningún medio electrónico o mecánico, incluidos los sistemas de almacenamiento y recuperación de información, sin la previa autorización por escrito del IB. Además, la licencia vinculada a este producto prohíbe el uso de todo archivo o fragmento seleccionado de este producto. El uso por parte de terceros —lo que incluye, a título enunciativo, editoriales, profesores particulares, servicios de apoyo académico o ayuda para el estudio, colegios preparatorios, desarrolladores de aplicaciones y entidades que presten servicios de planificación curricular u ofrezcan recursos para docentes mediante plataformas digitales—, ya sea incluido en tasas o no, está prohibido y constituye un delito.

En este enlace encontrará más información sobre cómo solicitar una autorización por escrito en forma de licencia: <https://ibo.org/become-an-ib-school/ib-publishing/licensing/applying-for-a-license/>.

Sports, exercise and health science
Standard level
Paper 1B

28 April 2026

Zone A afternoon | **Zone B** afternoon | **Zone C** afternoon

Session number

1 hour 30 minutes [Paper 1A and Paper 1B]

--	--	--	--	--	--	--	--	--	--

Instructions to students

- Write your session number in the boxes above.
- Do not open this examination paper until instructed to do so.
- Answer all questions.
- Answers must be written within the answer boxes provided.
- A calculator is required for this paper.
- A clean copy of the **SEHS data booklet** is required for this paper.
- The maximum mark for paper 1B is **[25 marks]**.
- The maximum mark for paper 1A and paper 1B is **[55 marks]**.

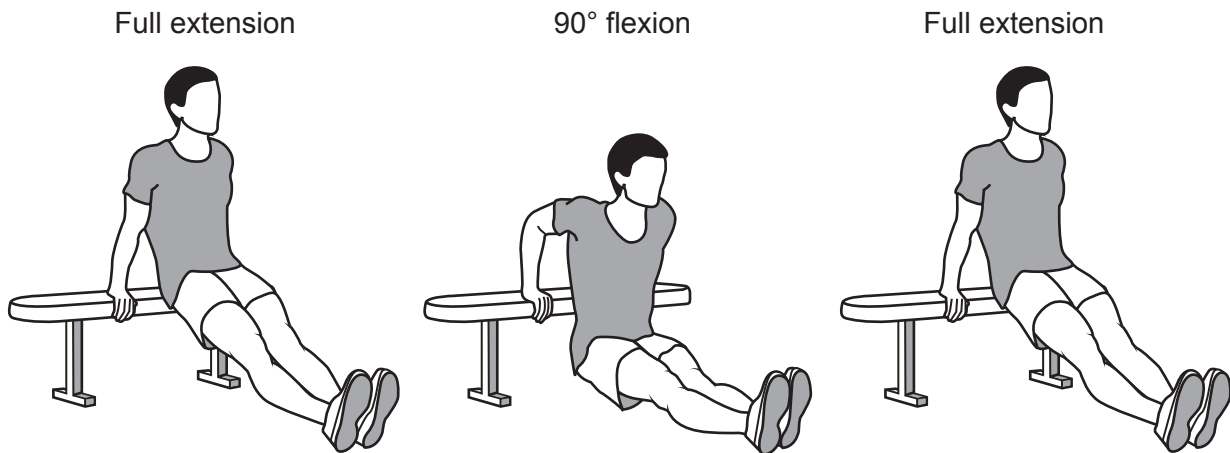


Answer **all** questions. Answers must be written within the answer boxes provided.

- The CoolMitt is a cooling device used by athletes to lower body temperature, decrease recovery time and enhance performance. It is commonly applied between sets during resistance training.

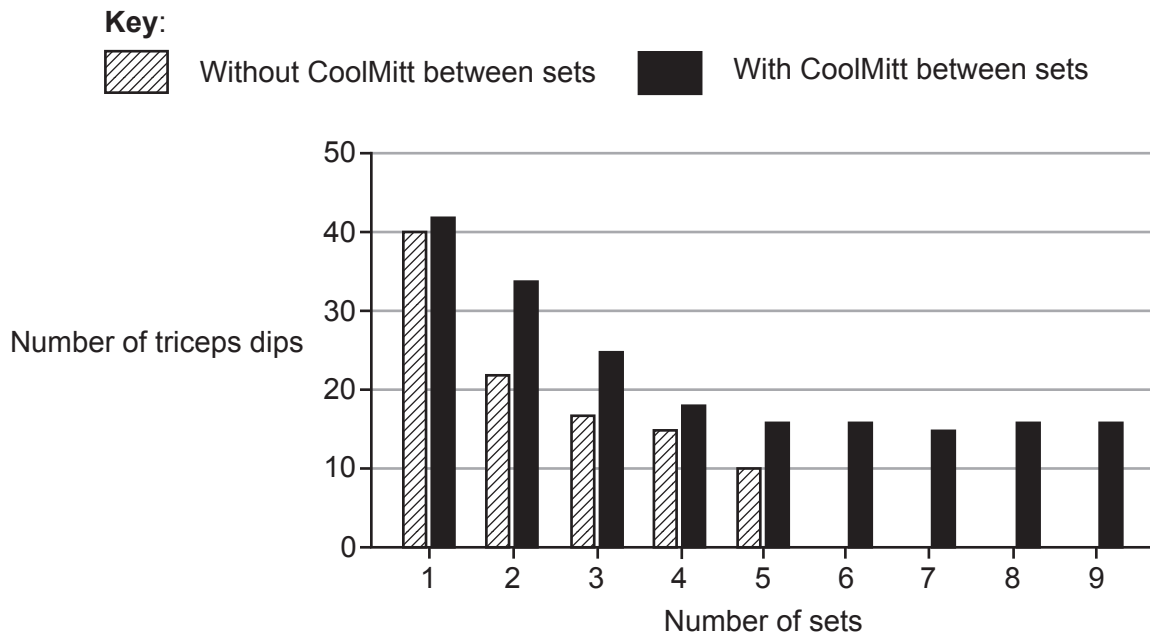
Figure 1 shows an athlete performing a triceps dip. They begin with full extension, move to 90° flexion and then back to full extension at the elbow.

Figure 1: Triceps dip



An athlete performed sets of triceps dips to failure without using a CoolMitt during their two-minute recovery periods. They repeated the exercise the following week, this time using a CoolMitt during the same recovery periods. The number of triceps dips completed per set is presented in **Figure 2**.

Figure 2: Number of triceps dips with and without a CoolMitt between sets



(This question continues on the following page)



(Question 1 continued)

- (a) Using the data from **Figure 2**, discuss the hypothesis that using a CoolMitt improves recovery between sets.

[3]

.....

.....

.....

.....

.....

.....

- (b) Suggest **two** factors affecting accuracy when recording the number of triceps dips completed in each set.

[2]

.....

.....

.....

.....

- (c) Explain **two** weaknesses of study design when collecting data from only one athlete.

[2]

.....

.....

.....

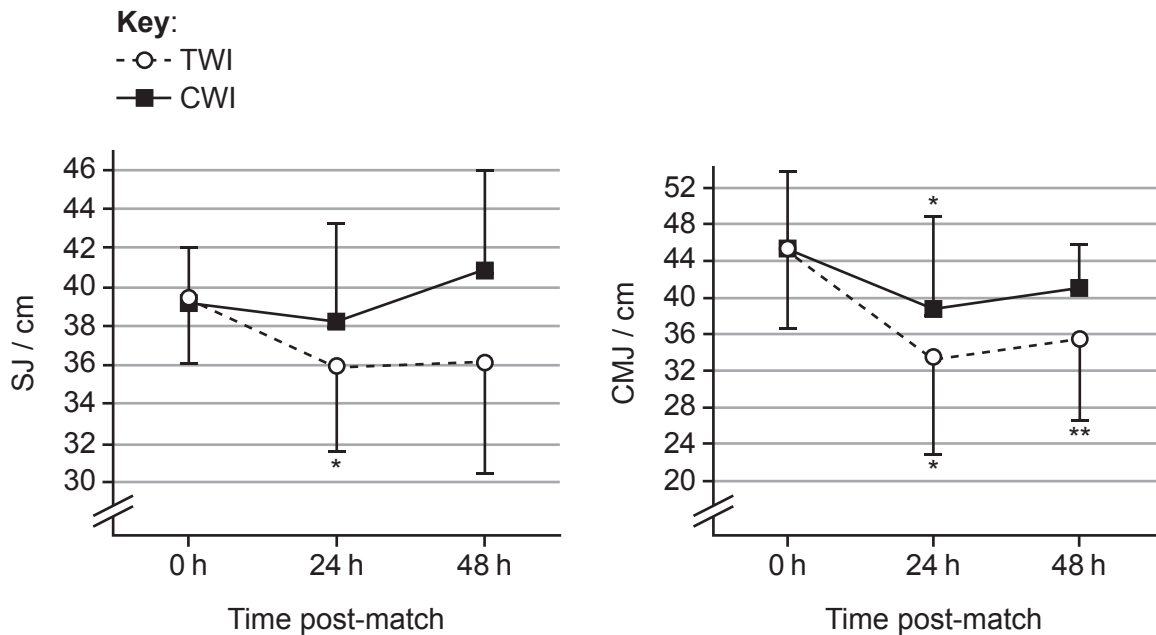
.....



2. A study investigated thermoneutral water immersion (TWI) and cold water immersion (CWI) after a soccer (football) match on 22 athletes. After 20 minutes of immersion, the athletes performed maximal squat jumps (SJ) and countermovement jumps (CMJ). The tests were repeated 24 and 48 hours later.

Figure 3 shows the mean and standard deviation of the jump heights (cm) for maximal squat jumps and countermovement jumps recorded 0, 24 and 48 hours (h) post-match.

Figure 3: Number of squat jumps and countermovement jumps post-match



(This question continues on the following page)



(Question 2 continued)

- (a) Calculate the difference between the mean of the squat jump heights 48 hours post-match for CWI and TWI.

[1]

.....
.....

- (b) Interpret the data of TWI in relation to countermovement jumps.

[3]

.....
.....
.....
.....
.....
.....

- (c) Discuss **two** safety considerations when using CWI for recovery.

[2]

.....
.....
.....
.....
.....
.....



3. A group of 13 golfers used sensors to collect data about how their golf club and ball interact. Each golfer completed 2 sessions, hitting 10 balls per session. The results are provided in **Table 1**.

Table 1: Golf club and ball interaction data for 13 golfers

	Mean $\pm$ standard deviation (session 1)	Mean $\pm$ standard deviation (session 2)
Flight distance / m	209.39 $\pm$ 43.29	233.41 $\pm$ 40.57
Club speed / km h ⁻¹	162.54 $\pm$ 26.96	172.96 $\pm$ 26.43
Ball speed / km h ⁻¹	234.36 $\pm$ 41.79	247.28 $\pm$ 39.50
Ball launch angle / degrees	13.50 $\pm$ 2.11	13.18 $\pm$ 2.03

- (a) Research suggests that hitting a golf ball further leads to better scores. Interpret the impact of the data in **Table 1** on flight distance.

[3]

.....

.....

.....

.....

.....

.....

.....

.....

- (b) Explain why measuring the flight distance of a golf ball indoors is more accurate than outdoors.

[1]

.....

.....

.....

.....

(This question continues on the following page)



(Question 3 continued)

- (c) A second study assessed the effect of different golf clubs on flight distance. Participants were randomly assigned one of two types of golf club. Outline the concept of double blinding in the context of this study.

[2]

.....

.....

.....

.....

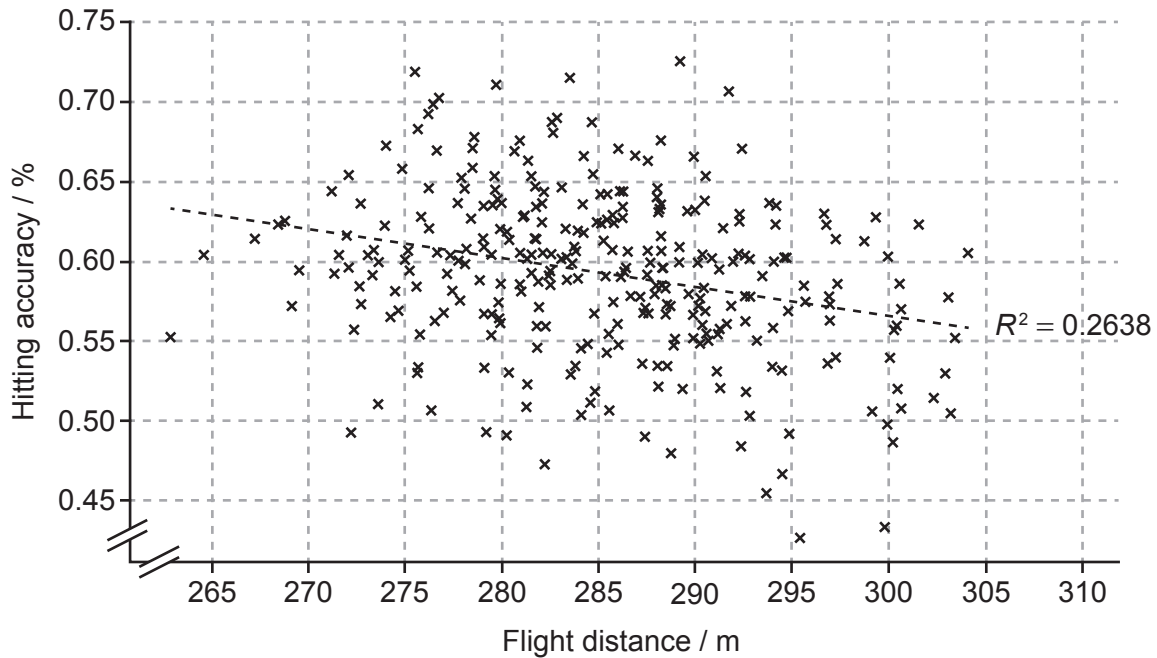
.....

.....



4. Over the course of a season, the hitting accuracy and flight distance of 130 golfers was recorded. The correlation between hitting accuracy and flight distance is provided in **Figure 4**.

Figure 4: The correlation between hitting accuracy and flight distance for 130 golfers



- (a) State the flight distance associated with the highest hitting accuracy.

[1]

.....

- (b) Explain what the R^2 value represents in **Figure 4**.

[3]

.....

(This question continues on the following page)



(Question 4 continued)

- (c) The sensors used to measure the interaction between the golf club and the ball consistently recorded a flight distance error. Discuss the impact of this measurement error.

[2]

.....

.....

.....

.....

.....

.....



Disclaimer:

Content used in IB assessments is often taken from authentic, third-party sources. The views expressed within them belong to their individual authors and/or publishers and do not necessarily reflect the views of the IB. Sometimes fictitious companies, products or individuals are included in assessments; any similarities with actual entities are purely coincidental. Any trademarks™ or registered® trademarks included are used for illustrative purposes only, and use does not imply any affiliation with or endorsement by the International Baccalaureate.

References:

- Figure 1** Bulgakov, O., 2021. *Bench Triceps Dips Man Exercise. Workout Exercising Guide. Colorful Concept Guy Working on His Triceps - stock illustration.* [image online] Available at: <https://www.gettyimages.co.uk/detail/illustration/bench-triceps-dips-man-exercise-workout-royalty-free-illustration/1354012432?phrase=tricep%20dips&searchscope=image,film&adppopup=true> [Accessed 4 April 2025]. Source adapted.
- Figure 3** Ascensão, A., Leite, M., Rebelo, A.N., Magalhães, S., and Magalhães, J., 2010. Effects of cold water immersion on the recovery of physical performance and muscle damage following a one-off soccer match. *Journal of Sports Sciences*, 29(3), pp. 217–225. Reprinted by permission of Informa UK Limited, trading as Taylor & Francis Group, www.tandfonline.com. Source adapted.
- Table 1** Bishop, C., Wells, J., Ehlert, A., Turner, A., Coughlan, D., Sachs, N., and Murray, A., 2023. Trackman 4: Within and between-session reliability and inter-relationships of launch monitor metrics during indoor testing in high-level golfers. *Journal of Sports Sciences*, 41(23), pp. 2138–2143. Reprinted by permission of Informa UK Limited, trading as Taylor & Francis Group, www.tandfonline.com. Source adapted.

All other texts, graphics and illustrations © International Baccalaureate Organization 2026



12EP10

Please **do not** write on this page.

Answers written on this page
will not be marked.



12EP11

Please **do not** write on this page.

Answers written on this page
will not be marked.



12EP12