



## Pre-Leaving Certificate Applied Examination 2022

# Mathematical Applications

(200 marks)

**Time: 2 hours**

Name:
School:
Address:
Class:
Teacher:

### General Directions

1. Complete the box above with your details.
2. Write all answers in the boxes or spaces in this answerbook.
3. Show all necessary work in the space provided.
4. Calculators may be used.
5. Answers involving money should be given correct to the nearest cent, unless otherwise indicated.

**ANSWER QUESTION ONE AND THREE OTHER QUESTIONS.**

ALL QUESTIONS CARRY EQUAL MARKS.

<i>For the examiner only</i>			
		Question	Mark
		1	
		2	
<i>Cumulative check</i>		3	
Running total		4	
– Disallowed		5	
= Total		↔ Total	
Total mark x 1.15 (to max. of exam. total)			







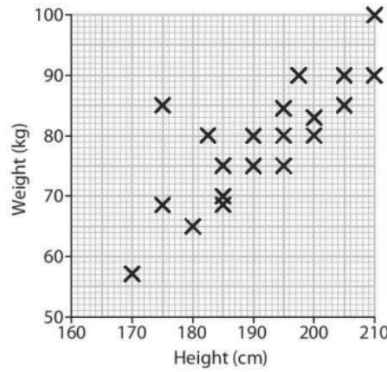
(d) What fraction of pupils took between 10 and 20 seconds to solve the puzzle?

	Answer:
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(e) What is the least number of pupils who could have solved the puzzle in less than 12 seconds?

	Answer:
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This scatter diagram shows the weights, in kg, and the heights, in cm, of 20 male athletes.



(f) What is the difference in height between the tallest and the shortest athlete?

	Answer:
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(g) One athlete who is 175cm tall is particularly heavy for his height.

(i) What is the ratio of his height to his weight? Give your answer in its simplest form.

	Answer:
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(ii) What is his height in m?

	Answer:
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- (d) The table below shows the fares for a student ticket, for the Lightning Bus Company. For example, a student ticket from Mitchelstown to Cashel costs €5.

FROM ↓	To →											
Cork City	Fermoy	€5	Mitchelstown	€6	Cahir	€6	Cashel	€7	Newlands Cross	€9	Dublin City	€14
Fermoy	Mitchelstown	€4	Cahir	€5	Cashel	€6	Newlands Cross	€8	Dublin City	€13		
Mitchelstown	Cahir	€4	Cashel	€5	Newlands Cross	€7	Dublin City	€12				
Cahir	Cashel	€4	Newlands Cross	€7	Dublin City	€11						
Cashel	Newlands Cross	€7	Dublin City	€10								
Newlands Cross	Dublin City	€5										
Dublin City												

- (i) What is the cost of a student ticket from Fermoy to Newlands Cross?

	Answer:
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- (ii) Sam bought a student ticket for €12. Where was he travelling from and to?

	From:		To:
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- (e) An extract from an electricity bill is shown.

Present reading	Previous reading	Unit cost	Standing charge	Vat rate
17 081 units	17 051 units	€0.12	€15.00	15%

Calculate the values below, and insert them into the table:

- (i) The number of units of electricity used
- (ii) The total cost of these units
- (iii) The total bill, including the standing charge, before VAT is added
- (iv) The VAT
- (v) The total cost of the bill

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(i)	(ii)	(iii)	(iv)	(v)

**Question 4**

**(a)** Ronan is estimating the volume of his cuboid shed. He estimates the width of the rectangular base to be 3m, the length of the base to be 6m, and the height of the shed to be 3m.

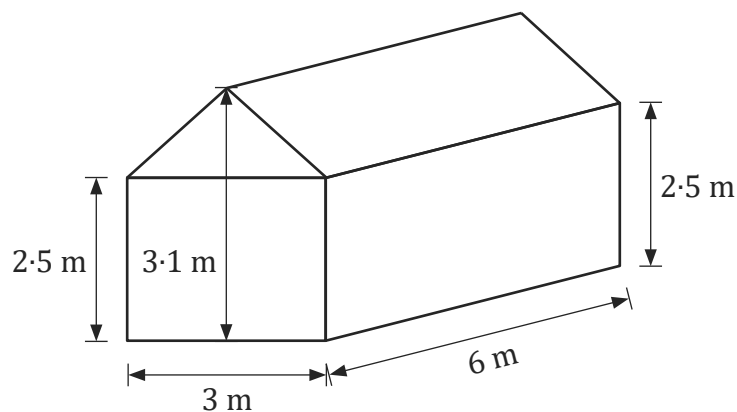
**(i)** Based on Ronan's estimates, what is the area of the base of the shed?

	Answer:
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**(ii)** Based on Ronan's estimates, what is the volume of the shed?

	Answer:
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**(iii)** Do you think the shed below has a larger or smaller volume than Ronan's shed? Explain your answer.



	Answer:
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