

- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- Answer all the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this Section is 25.
- Section B starts with question 9.
- You are expected to use a calculator in Section B of this paper.

FOR EXAMINER'S USE

SECTION B

This document consists of **8** printed pages.

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2

Formulae Sheet



Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = (area of cross-section) × length

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9 This function machine can be used to change a temperature in °C to a temperature in °F.



Change these temperatures to °F.

(a) 10°C

(**a**)°F [1]

(b) 37 °C

(b)°F [1]

10 Purely Maths books cost $\pounds 4.65$ each.

How many *Purely Maths* books can be bought for £50?

.....[2]

11 Draw the reflection of this shape in the mirror line.



[2]

12 Here are the night temperatures of six cities one Sunday in April.

City	Night temperature (°C)
Arkhangel	-5
Bangkok	25
La Paz	2
Melbourne	-1
Miami	22
Murmansk	-6

(a) Write these temperatures in order starting with the coldest.

(b) On Sunday the day temperature in Arkhangel was 6°C. The night temperature was ⁻⁵°C. How much warmer was the day temperature than the night temperature in Arkhangel?
(b)°C [1]
(c) On Monday night in La Paz it was 5°C colder than Sunday night. What was the temperature on Monday night?
(c)°C [1] 13 These patterns are made from black tiles and grey tiles.



(a) On the grid below draw the next pattern.

[1]

(**b**) Complete this table.

Number of black tiles	1	2	3	4	
Number of grey tiles	8	13	18		
					ׂן

(c) (i) Work out the number of grey tiles needed to make the pattern that has exactly 10 black tiles.

(c)(i)[1]

- (d) Harry said that the pattern with 40 black tiles has 206 grey tiles.

Explain why Harry is wrong.

......[1]

14 Nadim has a fair, eight-sided spinner. It is numbered 1, 1, 2, 3, 3, 3, 3 and 4. \mathcal{C} 2 در 4 Which number on this spinner has the probability shown by arrow A? (a) (i) 0 $\frac{1}{2}$ 1 T В А (**a**)(**i**)[1] (ii) Which number on this spinner has the probability shown by arrow B? Explain how you decide. Number because[2] (b) Nadim spins the spinner nine times. These are his results. 2 3 2 3 3 2 1 1 3 For these nine numbers, work out (i) the mode, **(b)(i)**[1] the median. (ii)

(ii)[2]

15 (a) A Super box of washing powder weighs 4.8 kilograms. A Large box of washing powder weighs 4.2 kilograms.



How much heavier is the Super box than the Large box? Give your answer in grams.

(a) g [2]

(b) Here are some diagrams.

Put a tick (\checkmark) under each one that **is** the net of a cuboid. Put a cross (\checkmark) under each one that **is not** the net of a cuboid.



[2]

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