November Advanced Information:

Paper 2 Foundation

Edexcel

THIRD SPACE
LEARNING

Name

Total marks

Instructions

- Use black ink or ball-point pen.
- Fill in the boxes at the top of this page with your name, centre number and candidate number.
- Answer all questions.
- Answer the questions in the spaces provided
  – there may be more space than you need.
- You must show all your working.
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- Calculators may be used.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

- The total mark for this paper is 80
- The marks for each question are shown in brackets
  – use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

This practice paper is based on the topics from the **advanced information for the November 2022 exam series.**

Please note, this practice paper is an example to help revision, these topics can be tested in other ways and other topics may be included in the actual papers

1   Write the following numbers in order of size.

     Start with the smallest.

     13   3   -1   -3   10

(Total for Question 1 is 1 mark)

2   Change 230mm to cm.

------------------------------- cm

(Total for Question 2 is 1 mark)

3   Write 45% as a fraction.

(Total for Question 3 is 1 mark)

4   Write down the reciprocal of 3.

(Total for Question 4 is 1 mark)

5   ABC is a scalene triangle.
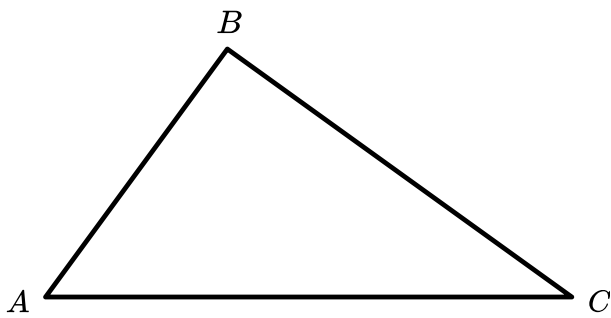
(a) Measure the length BC. Include units in your answer.

....

(1)

(b) Measure the angle at A.

°

....

(1)

(Total for Question 5 is 2 marks)

---

6   Write the number two hundred and ten thousand in figures.

....

(Total for Question 6 is 1 mark)

---

7   Lucy buys a top for £7.99 and 2 pairs of trousers for £8.49 each. Lucy pays with a £10 note and a £20 note. How much change does Lucy get?

£ ....

(Total for Question 7 is 3 marks)

8   (a) Expand $3(x + 5)$

----

(1)

(b) Expand and simplify $7(3y + 4) - 5(2y + 1)$

----

(2)

(c) Find the solutions to the equation $(x - 3)(2x + 5) = 0$

----

(2)

(Total for Question 8 is 5 marks)

9   Three students took a test. Their scores are shown in the table.

Jenna	$\frac{33}{40}$
Claire	$\frac{24}{30}$
Sarah	$\frac{7}{12}$

Write the students' scores in order from lowest to highest.

(Total for Question 9 is 3 marks)

10 The heights, in cm, of 18 sunflowers are shown below.

184	192	176	211	204	199
180	188	204	196	213	205
198	200	201	214	185	184

(a) Show this information in an ordered stem and leaf diagram.

(4)

(b) Find the median height of the sunflowers.

.... cm

(2)

(c) Kirsty says that the mean height of the sunflowers is 175cm. Explain why Kirsty must be wrong.

----

(1)

(Total for Question 10 is 7 marks)

11 Yan has some new stationery for school. In total he has 30 items.

$\frac{1}{6}$ of the items are pencils.

20% of the items are pens.

There are 10 colouring pencils.

The rest are 'other' items including a ruler and a sharpener.

Complete the bar chart to show this information.
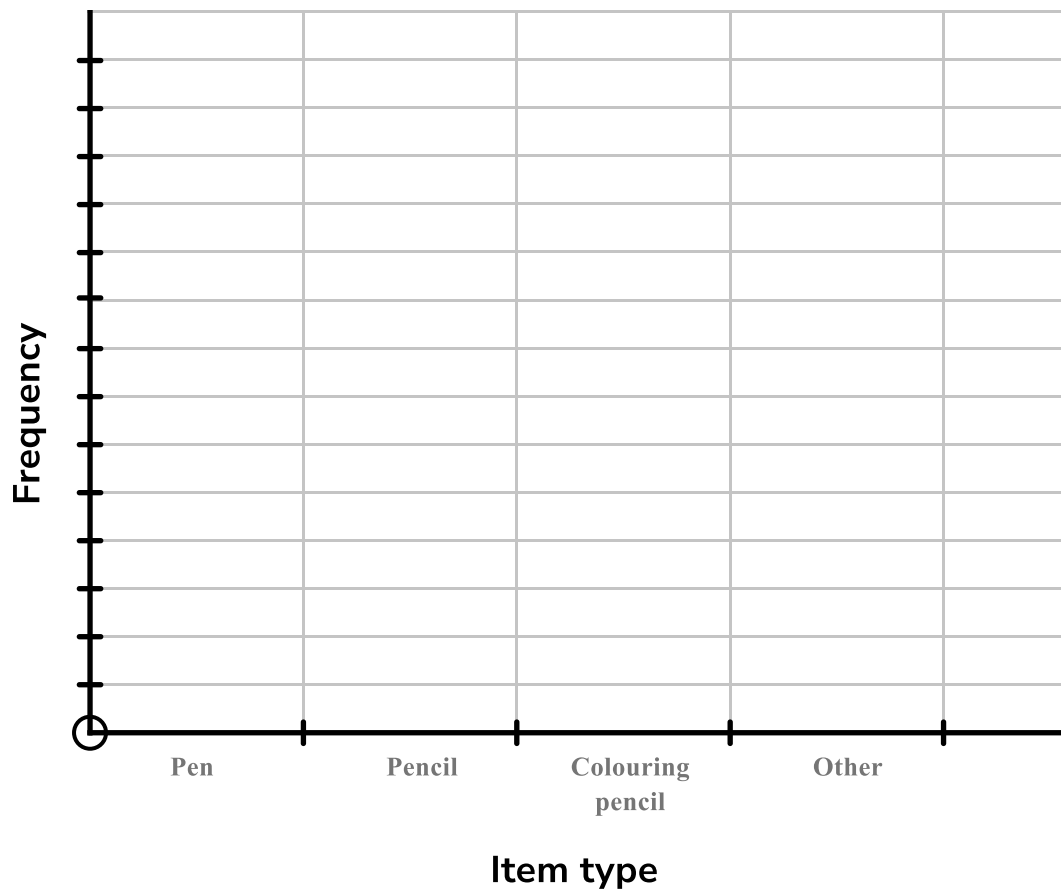
12 The cost of hiring a digger is given by the formula

$C = 25d + 100$

where C is the total cost and d is the number of days.

Dave wants to hire the digger for 3 days. How much will it cost him?

£ _

(Total for Question 12 is 2 marks)

13 A B&B has 5 rooms.

All 5 rooms are rented out at the same rate.

When all 5 rooms are occupied, the B&B receives £325 per night.

This table shows the bookings in the B&B one week.

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
A	�						
B							
C							
D							
E							

▢ Room is booked for the night

How much money does the B&B take for the bookings this week?

£ _

(Total for Question 13 is 3 marks)

14 Anne's age is three times Sam's age. Sam is 26 years older than Aurelia. The total of their ages is 114.

(a) Using s for Sam's age, show that 5s - 26 = 114.

(2)

(b) Work out the age of each person.

Anne ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗

Sam ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗

Aurelia ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗

(2)

(Total for Question 14 is 4 marks)

15 It takes 1.5 hours to drive from Bristol to Swansea at 60mph. How much less time would it take to drive from Bristol to Swansea at 72mph?

Give your answer in minutes.

‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ mins

(Total for Question 15 is 3 marks)

16 The weight of a baby is recorded as 3.82kg to 2 decimal places..

Complete the error interval for the weight, *w*, of the baby.

_____ ≤ *w* < _____

(Total for Question 16 is 2 marks)

17 The first five terms in a linear sequence are -1, 3, 7, 11, 15, …

(a) Find the *n*th term formula for the sequence.

_____

(2)

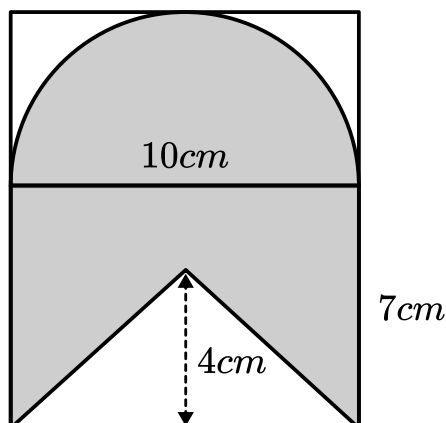(b) Is the number 200 in the sequence? Give a reason for your answer.

_____

_____

(2)

(c) Another sequence has nth term $6n + 5$.

Find two values between 20 and 40 that occur in both sequences.

_____

(2)

(Total for Question 17 is 6 marks)

18 Here is a diagram of a wall tile. Work out the shaded area.

Give your answer to 2 decimal places.
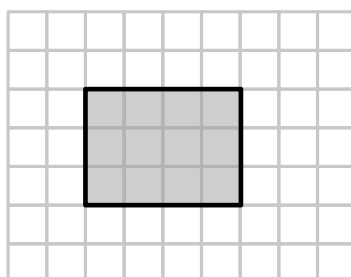

10*cm*

7*cm*

4*cm*

_____ cm²

(Total for Question18 is 4 marks)

19 Here are the front and side elevations of a prism.
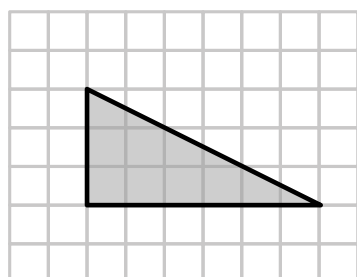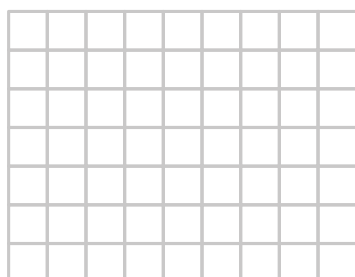
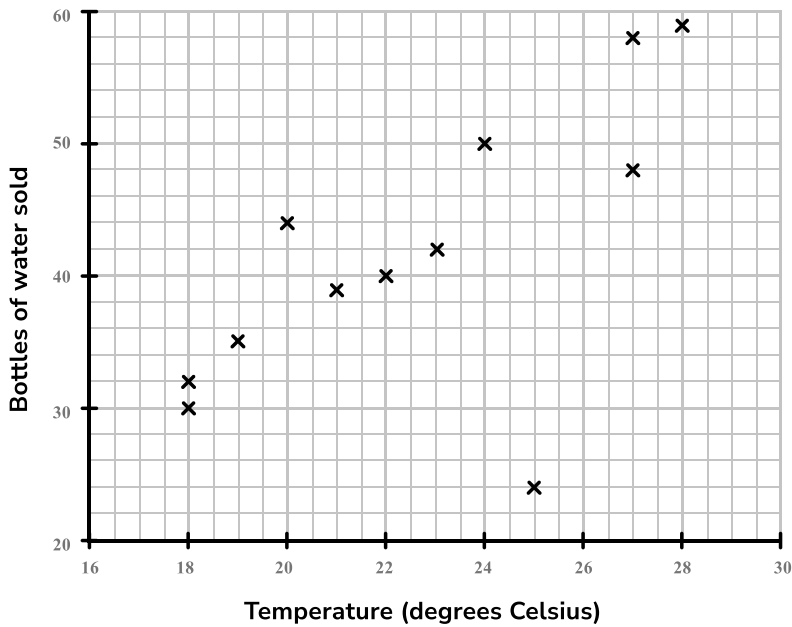**Front elevation**   **Side elevation**

On the grid below draw the plan of the prism

(Total for Question 19 is 2 marks)

20 This scatter diagram shows information about the number of bottles of water sold by a shop and the maximum temperature over a number of days.

(a) The next day the maximum temperature is 24°C and the shop sells 44 bottles of water.

Mark this information on the scatter diagram.

(1)

(b) Use the scatter diagram to estimate the number of bottles of water sold on a day when the maximum temperature was 26°C.

- -

(2)

(c) On one day, the shop's car park was closed. How many bottles of water were sold on this day?

- -

(1)

(Total for Question 20 is 4 marks)

21 An adult requires 0.75g of protein per kg of body weight.

Badar is 72kg.

On Monday he ate the following protein rich foods:

Food	Amount Badar ate	Amount of protein
Yoghurt	80g	10g per 100g
Chicken	75g	24g per 100g
Peanuts	40g	26g per 100g
Beans	200g	23g per 100g

Did Badar eat more or less than his recommended daily intake of protein on Monday?

(Total for Question 21 is 5 marks)

22 Here is the graph of $y = x^2 + 2x + k$
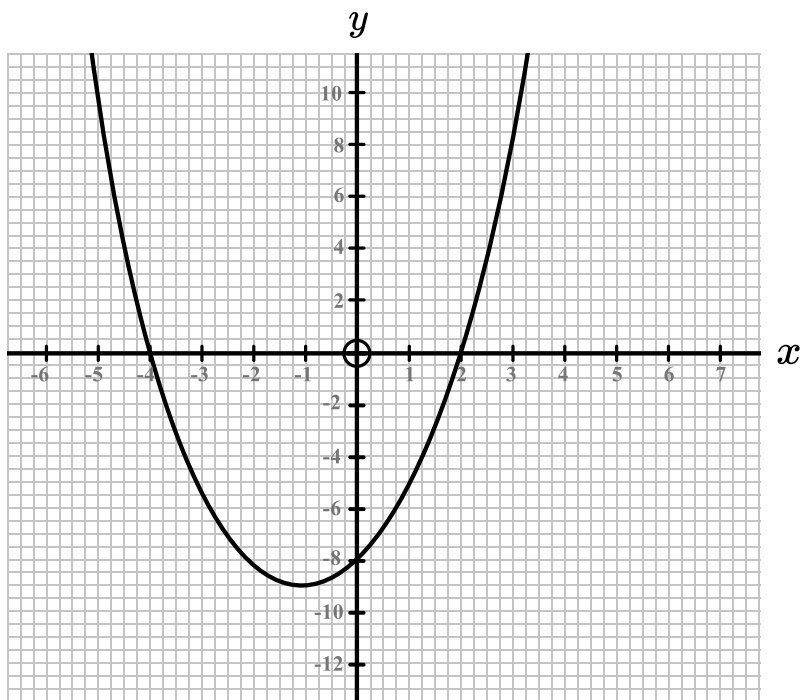
(a) Write down the coordinates of the minimum point of the curve.

(1)

(b) Write down the value of k.

(1)

(c) Use the graph to find the solutions to $x^2 + 2x + k = 0$

(2)

(Total for Question 22 is 4 marks)

23 (a) Kevin's bills have increased by 40%. He is now paying £518 per month.

How much was Kevin paying per month before this increase?

£ _____

(2)

(b) Kevin's salary is £28000 per year. His employer has told him he will have a 2% pay rise

each year for the next 3 years. What will Kevin's salary be after the 3 years?

£ _____

(2)

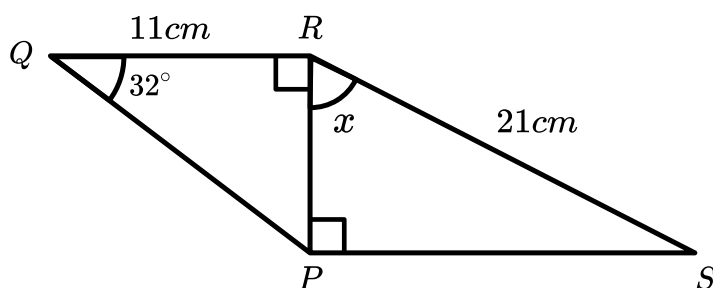(c) Kevin says that even after 3 years his pay increase will not cover this increase in his bills.

Is Kevin correct? Show how you decide.

_____

(3)

(Total for Question 23 is 7 marks)

24 The quadrilateral PQRS is made from two right angled triangles.

Show that $x = 70.9°$ to 3 significant figures.

(Total for Question 24 is 4 marks)

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