GCSE Mathematics Practice Tests: Set 11

Paper 1F (Non-calculator)

Time: 1 hour 30 minutes

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

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*.
- **Calculators may be used.**
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

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.

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

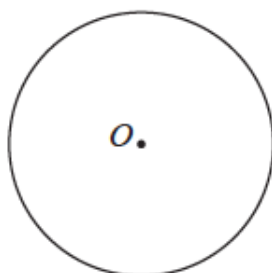1   Write a number in each box so that each calculation is correct.

(i) ⬚ +   357   =   486

(ii) ⬚ ×   23   =   1840

(Total for Question 1 is 2 marks)

2   The diagram shows a circle with centre *O*.

On the diagram, draw a radius of the circle.

(Total for Question 2 is 1 mark)

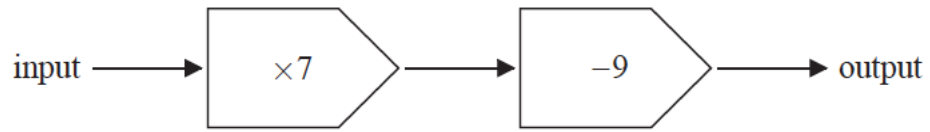3   Write $\frac{3}{4}$ as a percentage.

....%

(Total for Question 3 is 1 mark)

4 Here is a number machine.

input ⟶ ×7 ⟶ −9 ⟶ output

(*a*) Work out the output when the input is 8

....
(1)

(*b*) Work out the input when the output is 82

....
(2)

(Total for Question 4 is 3 marks)

5 The pictogram shows information about the number of naan breads sold in a restaurant each day from Wednesday to Saturday.

Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

 represents 8 naan breads
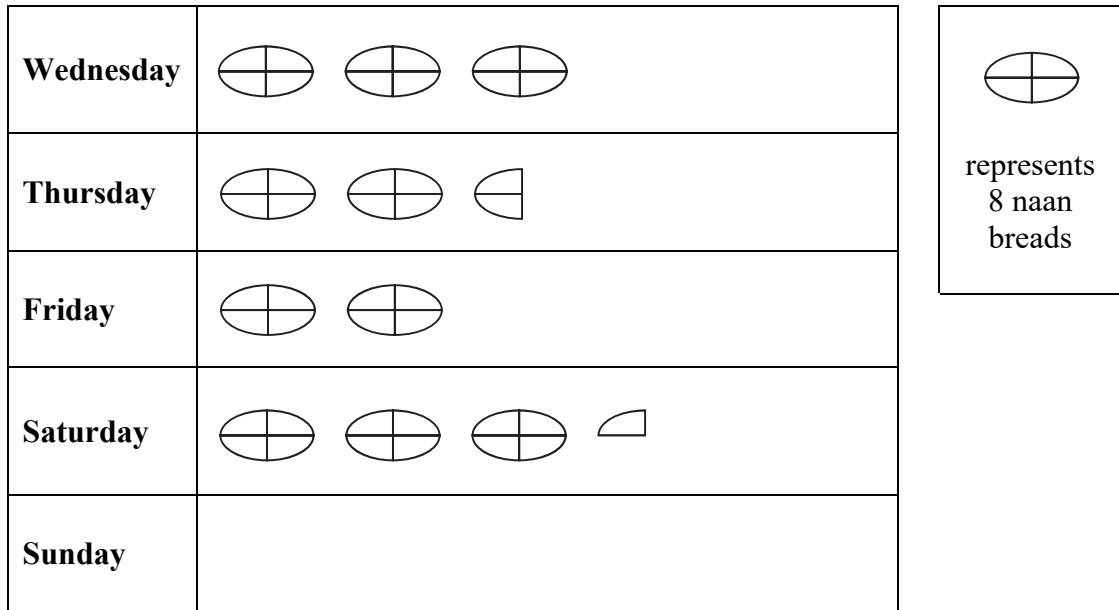
(*a*) How many naan breads were sold on Wednesday?

....

(1)

More naan breads were sold on Saturday than were sold on Friday.

(*b*) How many more?

....

(2)

12 naan breads were sold in the restaurant on Sunday.

(*c*) Show this information on the pictogram.

(1)

The manager of the restaurant says,

"More than 100 naan breads were sold in the restaurant from Wednesday to Sunday."
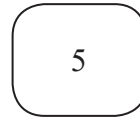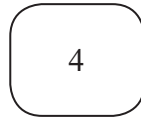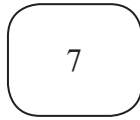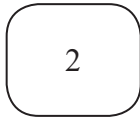
(*d*) Is the manager correct?
You must show your working.

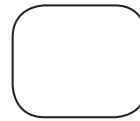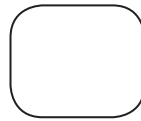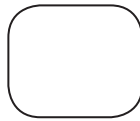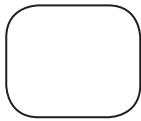...

(2)

(Total for Question 5 is 6 marks)

6 Here are four cards.
Each card has a number on it.
The four cards are arranged to make the number 2745

| 2 | 7 | 4 | 5 |

(i) Show how the cards can be arranged to make the smallest number using all four cards.

| | | | |

(ii) Show how the cards can be arranged to make an even number using all four cards.

| | | | |
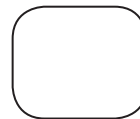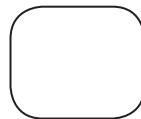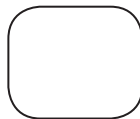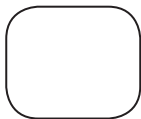
(Total for Question 6 is 2 marks)

7 Write 0.72 as a fraction.
Give your fraction in its simplest form.

....
(2)
(Total for Question 7 is 2 marks)

8
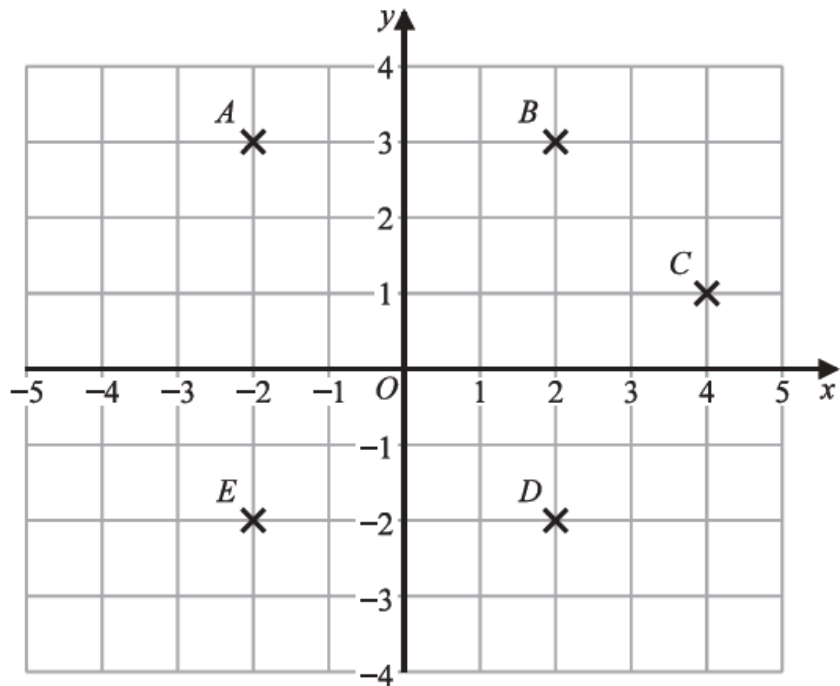
(*a*) Write down the coordinates of point *B*.

(.................................. , ...)

(1)

(*b*) Write down the letter of the point with coordinates (2, −2)

....

(1)

(*c*) Find the coordinates of the midpoint of *AC*.

(.................................. , ...)

(2)

(Total for Question 8 is 4 marks)

9 Here is a list of eight numbers.

10	23	27	30	42	52	74	81

From the list, write down

(i) a square number

....

(ii) a factor of 50

....

(iii) a prime number.

....

(Total for Question 9 is 3 marks)

10 The table shows the temperature in each of five Canadian cities one day in January.

City	Temperature
Vancouver	6 °C
Edmonton	−8 °C
Yellowknife	−23 °C
Quebec	−20 °C
Ottawa	−5 °C

(*a*) Work out the difference between the temperature in Vancouver and the temperature in Edmonton.

....°C

(1)

The temperature in Yellowknife is lower than the temperature in Ottawa.

(*b*)　How much lower?

....°C

(1)

The temperature in Winnipeg was 8 °C greater than the temperature in Quebec.

(*c*)　Work out the temperature in Winnipeg.

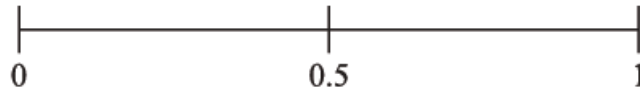..°C

(1)

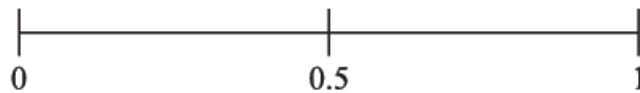**(Total for Question 10 is 3 marks)**

11 Imran throws an ordinary fair dice.

(*a*) On the probability scale, mark with a cross (×) the probability that the dice will land on 10

(1)

(*b*) On the probability scale, mark with a cross (×) the probability that the dice will land on an odd number.

(1)

(Total for Question 11 is 2 marks)

12
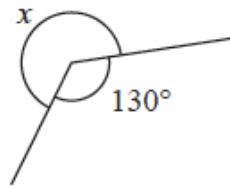
Diagram **NOT** accurately drawn

Work out the size of the angle marked *x*.

....°

(Total for Question 12 is 1 mark)

13 Simplify $3e + 7g + 5e - 4g$

....

(Total for Question 13 is 2 marks)

14 Here is a centimetre grid.

(*a*) On the grid, draw a rectangle with a perimeter of 14 cm.

(2)

Here is a centimetre grid.

(*b*) On the grid, draw a right-angled triangle with an area of 12 cm^2

(2)
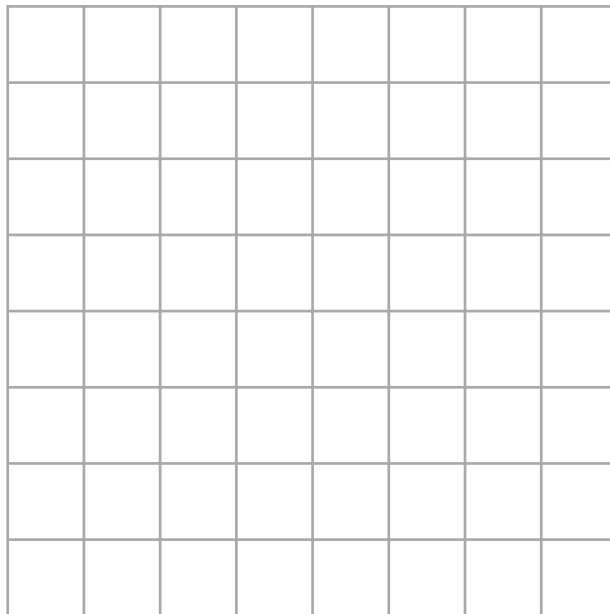
(Total for Question 14 is 4 marks)

15 Bella buys

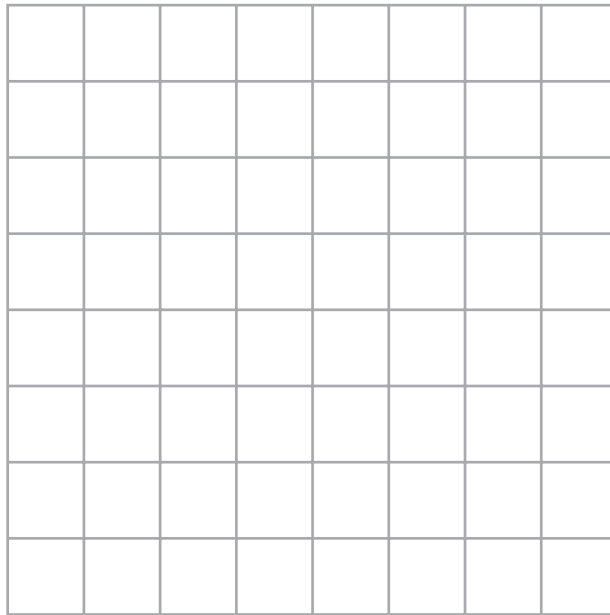   4 packets of sandwiches at £2.40 each packet
                  a bottle of water for £1.20
        and 3 packets of crisps.

Bella pays with a £20 note.
She gets £5.75 change.

Each packet of crisps has the same price.

Work out the price of each packet of crisps.

£ ....

(Total for Question 15 is 3 marks)

16 Here is a pentagon.

| acute | obtuse | reflex | right |

(*a*) Write down the word from the box that describes the angle marked x.
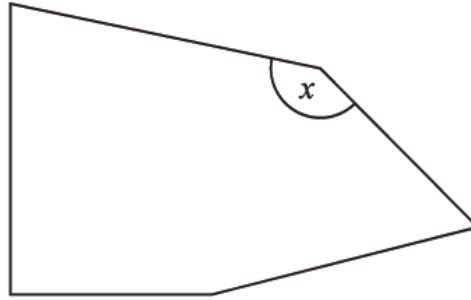
.... angle
(1)

(*b*) Write down the mathematical name of the following polygon.

....
(1)

(Total for Question 16 is 2 marks)

17 Expand $w(w + 3)$

....

(Total for Question 17 is 1 mark)

18 Simplify $w^5 \times w^7$

....

(Total for Question 18 is 1 mark)

19 Simplify $a + a + a + a$

....

(Total for Question 19 is 1 mark)

20 Solve $3f - 5 = 11$

$f =$ ....

(Total for Question 20 is 2 marks)
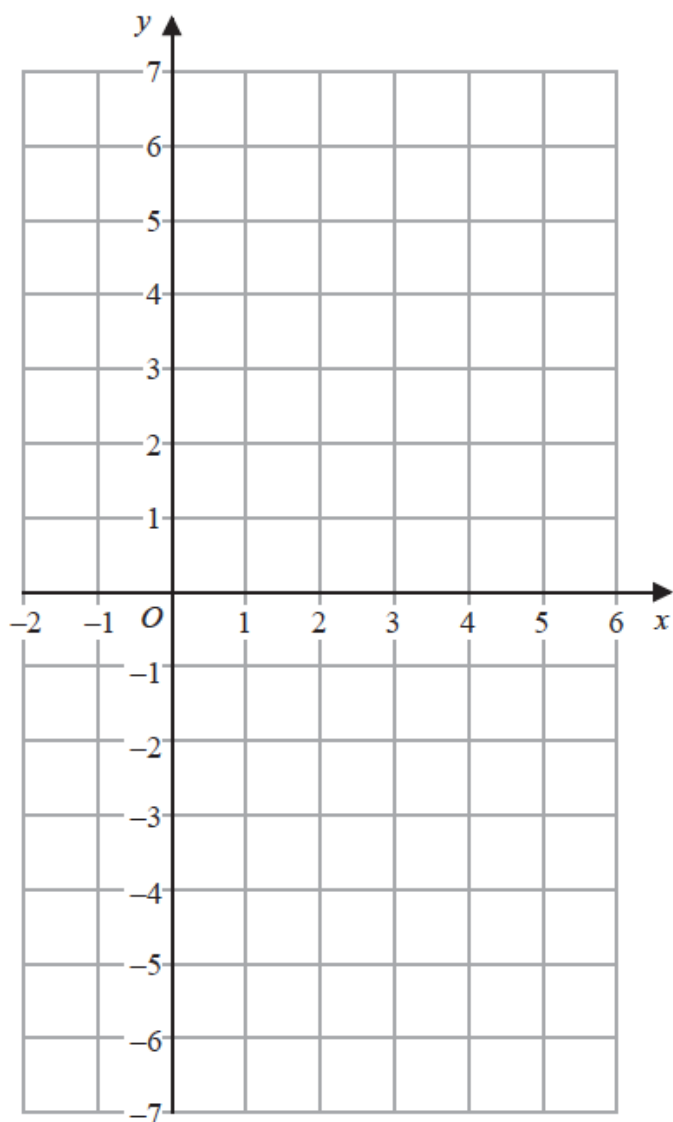
21 Simplify $t^9 \div t^3$

....
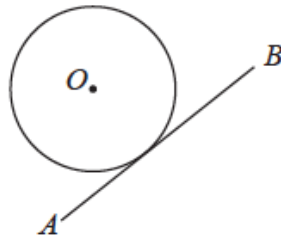
(Total for Question 21 is 1 mark)

22   On the grid, draw the graph of $y = 2x - 3$ for values of x from -1 to 5

(Total for Question 22 is 3 marks)

23 The diagram shows a circle with centre O.

Write down the word from the box that describes the line AB.

| sector | segment | tangent | chord | diameter |

....

(Total for Question 23 is 1 mark)

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24 Factorise $5y + 15$

....

(1)

(Total for Question 24 is 1 mark)

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25 Potatoes cost 2 dollars per kg.
Carrots cost 3 dollars per kg.

Alfred buys p kg of potatoes and c kg of carrots.
The total cost is T dollars.

Write down a formula for T in terms of p and c.

....

(Total for Question 25 is 3 marks)

26 Here is a number machine.

input $\longrightarrow$ ×7 $\longrightarrow$ −9 $\longrightarrow$ output

The input is y.

Find an expression, in terms of y, for the output.

....

(Total for Question 26 is 2 marks)

27 $y = 5e^2 + 20$

Work out the value of y when $e = -3$

$y = $ ....

(Total for Question 27 is 2 marks)

28 Show that $5\dfrac{2}{3} - 2\dfrac{3}{4} = 2\dfrac{11}{12}$

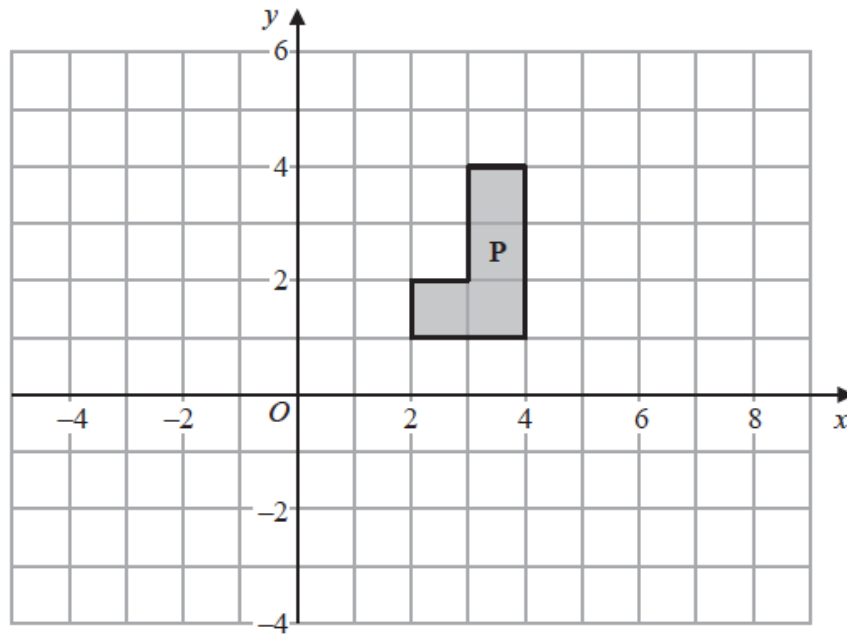**(Total for Question 28 is 3 marks)**

29 Simplify $3c \times 5c$

....

(Total for Question 29 is 1 mark)

30 Make y the subject of $H = 3y - w$

....
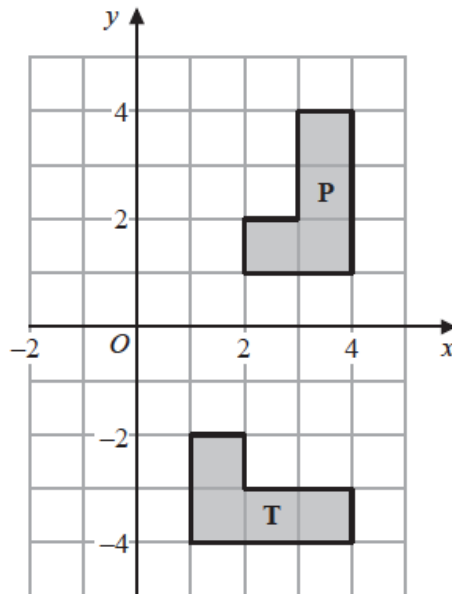
(Total for Question 30 is 2 marks)

31

(*a*)   On the grid above, translate shape **P** by the vector $\begin{pmatrix} -5 \\ 2 \end{pmatrix}$

(1)

(*b*)   Describe fully the single transformation that maps shape **P** onto shape **T**.

....

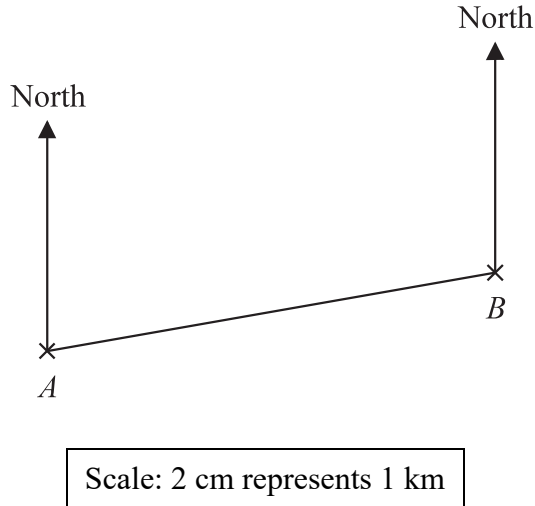...

(3)

(Total for Question 31 is 4 marks)

32 The scale diagram shows the position of two statues, *A* and *B*, on a map.

Scale: 2 cm represents 1 km

(*a*) Measure the bearing of *B* from *A*.

.... °

(1)

Another statue *C* is on a bearing of 120° from *B*.
Statue *C* is 4.5 km from *B*.

(*b*) Mark the position of statue C with a cross (×).
Label your cross *C*.

(3)

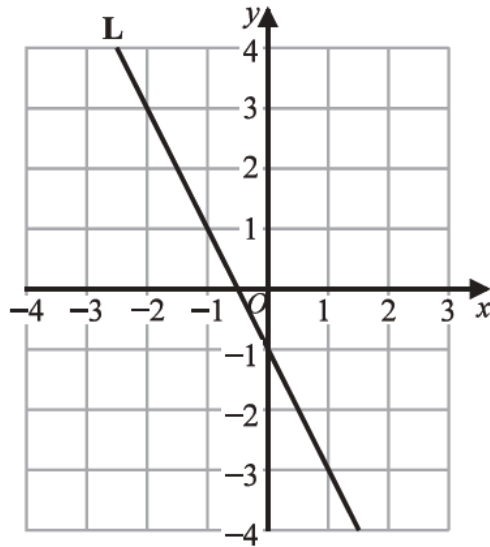**(Total for Question 16 is 4marks)**

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33 Simplify $(5xy^2)^3$

....

(Total for Question 33 is 2 marks)

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34 Factorise $x^2 - 5x - 36$

....

(Total for Question 34 is 2 marks)

35   Line **L** is drawn on the grid.

Find an equation for **L**.

....

(Total for Question 35 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS