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. There are 42 questions.
- Questions have been arranged in an ascending order of mean difficulty, as found by all students in the June 2019 examinations
- 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 The table shows the distance, in kilometres, from London to each of five cities.

City	Distance (km)
Rio de Janeiro	9280
New York	5567
Manila	10 734
Sydney	16 983
Kolkata	7962

(*a*) Which of the five cities is **seven thousand nine hundred and sixty two** kilometres from London?

....
(1)

(*b*) Write the number 9280 in words.

....
(1)

(*c*) Which of the five cities is nearest to London?

....
(1)

(Total for Question 1 is 3 marks)

2 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
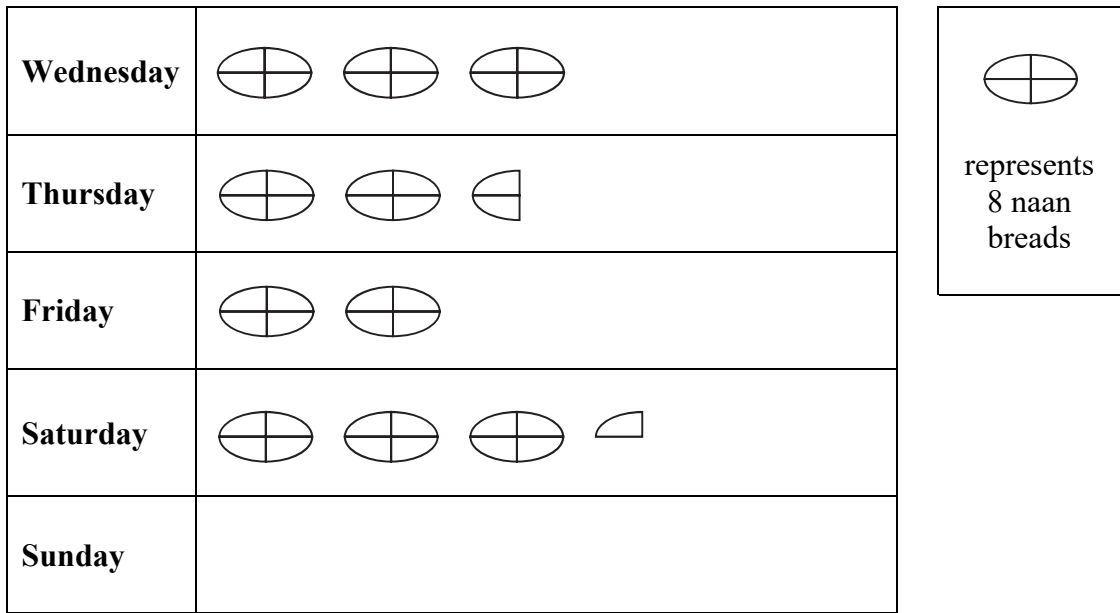
How many naan breads were sold on Wednesday?

....

(Total for Question 2 is 1 mark)

3 Write 478 to the nearest hundred.

....

(Total for Question 3 is 1 mark)

4
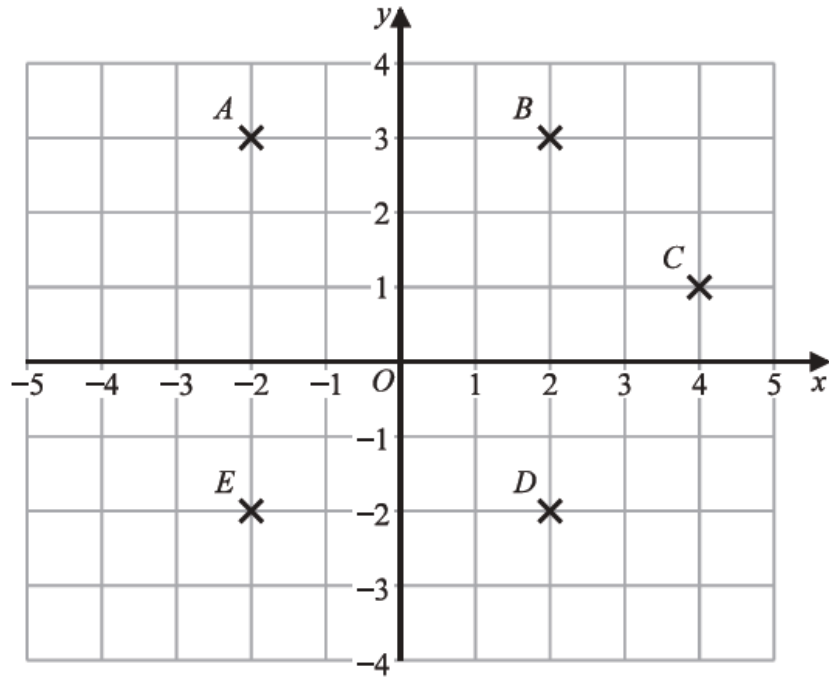
(*a*) Write down the coordinates of point *B*.

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

(1)

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

....

(1)

(Total for Question 4 is 2 marks)

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5 You can use this rule to work out the total hire charge, in pounds (£), for hiring a 3D printer for a number of weeks.

Total hire charge (£) = number of weeks × 70 + 50

Mia wants to hire a 3D printer for 4 weeks.
Work out the total hire charge.

£...

(Total for Question 5 is 2 marks)

6 Write down a multiple of 8 that is between 41 and 60

....

(Total for Question 6 is 1 mark)

7 The table shows the costs of sending a parcel by the Express service and by the Rapid service.

Type of service	Cost
Express	£15.25
Rapid	£35.38

Brendan has to send 12 parcels.
It will be cheaper to send the parcels by the Express service than by the Rapid service.

How much cheaper?

....

(Total for Question 7 is 1 mark)

8 The first term of a sequence of numbers is 24
The term-to-term rule of this sequence is 'add 8'

Josie says,

"No number in this sequence is in the 5 times table."

Give an example to show that Josie is wrong.

....

(Total for Question 8 is 1 mark)

9 Here is a list of eight numbers.

| 10   23   27   30   42   52   74   81 |

From the list, write down a factor of 50

....

(Total for Question 9 is 1 mark)

10 Write 19% as a fraction.

....

(Total for Question 10 is 1 mark)

11 Write the number 16983 correct to the nearest thousand.

....

(Total for Question 11 is 1 mark)

12 Write down the value of the 7 in 10734

....
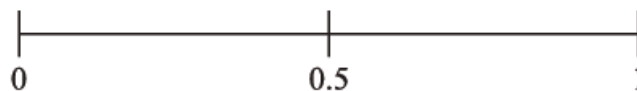
(Total for Question 12 is 1 mark)

13 Imran throws an ordinary fair dice.

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

```
 ├──────────────┼──────────────┤
 0             0.5             1
```
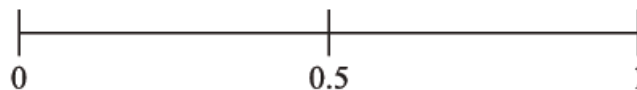
(1)

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

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 ├──────────────┼──────────────┤
 0             0.5             1
```

(1)

(Total for Question 13 is 2 marks)

14 Work out 20% of 80

....

(Total for Question 14 is 2 marks)

15 (*a*) Work out the value of $\dfrac{9.24 \times 4.35}{6.57 + 2.19}$

Give your answer as a decimal.
Write down all the figures on your calculator display.

....
(2)

(*b*) Give your answer to part (*a*) correct to 2 significant figures.

....
(1)

(Total for Question 15 is 3 marks)

16 Simplify $4e + 6f + 7e - f$

....

(Total for Question 16 is 2 marks)

17 You can use this rule to work out the total hire charge, in pounds (£), for hiring a 3D printer for a number of weeks.

Total hire charge (£) = number of weeks × 70 + 50

Zahir hires a 3D printer.
The total hire charge is £680

For how many weeks does Zahir hire the 3D printer?

.... weeks

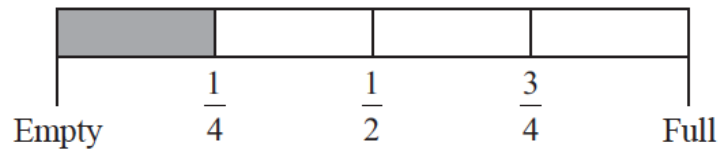**(Total for Question 17 is 2 marks)**

18 Sandeep has £12 to spend on pencils.
Each pencil costs 45 pence.

Sandeep buys as many pencils as he can.

Work out how much change Sandeep should get.

(Total for Question 18 is 3 marks)

19 Here is the gauge for the fuel tank of a car.

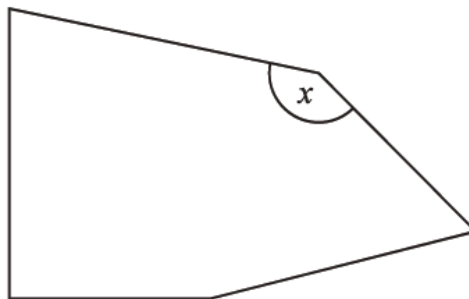The fuel tank holds 52 litres of fuel when the tank is full.

The tank is $\frac{1}{4}$ full of fuel.

Work out how many more litres of fuel are needed to fill the tank.

.... litres

(Total for Question 19 is 3 marks)

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20 Here is a pentagon.

| acute | obtuse | reflex | right |

Write down the word from the box that describes the angle marked x.

.... angle

(Total for Question 20 is 1 mark)

---

21 Expand $w(w + 3)$

....

(Total for Question 21 is 1 mark)

22 Here is a list of eight numbers.

     10   23   27   30   42   52   74   81

From the list, write down a square number

....

(Total for Question 22 is 1 mark)

23 Bill has 400 counters in a bag.

He gives
        35 of the counters to Sameena
        50 of the counters to Henry
        75 of the counters to Lucas

What fraction of the 400 counters is left in Bill's bag?
Give your fraction in its simplest form.

....

(Total for Question 23 is 3 marks)

24 The first term of a sequence of numbers is 24
The term-to-term rule of this sequence is 'add 8'

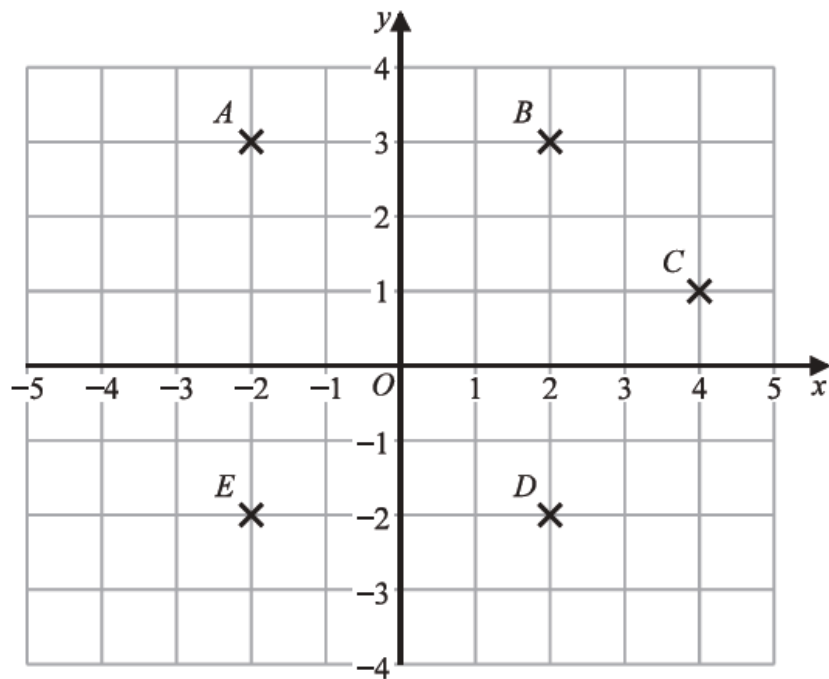Is 85 a number in this sequence?
Give a reason for your answer.

....

....

(Total for Question 24 is 1 mark)

25 Solve $3f - 5 = 11$

$f =$ ....

(Total for Question 25 is 2 marks)

26

Find the coordinates of the midpoint of *AC*.

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

(Total for Question 26 is 2 marks)

---

27 There are four types of counter in a bag.
The table shows the number of each type of counter in the bag.

Type of counter	red circle	green circle	red square	green square
Number of counters	16	26	11	7

There are more green counters than red counters.
How many more?

....

(Total for Question 27 is 2 marks)

---

28 Here is a list of eight numbers.

$$10 \quad 23 \quad 27 \quad 30 \quad 42 \quad 52 \quad 74 \quad 81$$

From the list, write down a prime number.

....

(Total for Question 28 is 1 mark)

29 The diagram shows kite *ABCD*.
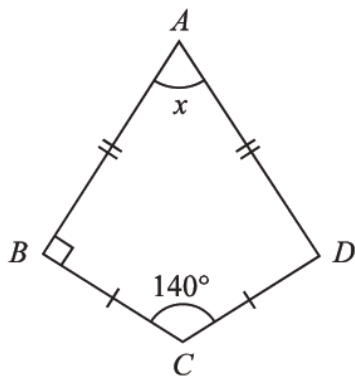
Diagram **NOT**
accurately drawn

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

.... °

(Total for Question 29 is 2 marks)

30 Ali, Ben and Cathy share an amount of money in the ratio 6 : 9 : 10
What fraction of the money does Ben get?

....

(Total for Question 30 is 2 marks)

31 Write down the mathematical name of this polygon.

....
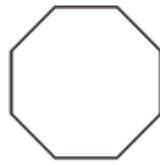
(Total for Question 31 is 1 mark)

32 There are some ice lollies in a freezer.
The flavour of each ice lolly is banana or strawberry or mint or chocolate.

Julius takes at random an ice lolly from the freezer.

The table shows the probabilities that the flavour of the ice lolly that Julius takes is banana or strawberry or chocolate.

Flavour	banana	strawberry	mint	chocolate
Probability	0.35	0.32		0.12

Work out the probability that the flavour of the ice lolly that Julius takes is either strawberry or mint.

....

(Total for Question 32 is 3 marks)

33 Change 1.5 kilometres to metres.

.... metres

(Total for Question 33 is 1 mark)

34   Liz goes on holiday to South Africa.

Liz wants to change £850 into South African rand.
She wants to get as many 200 rand notes as possible.
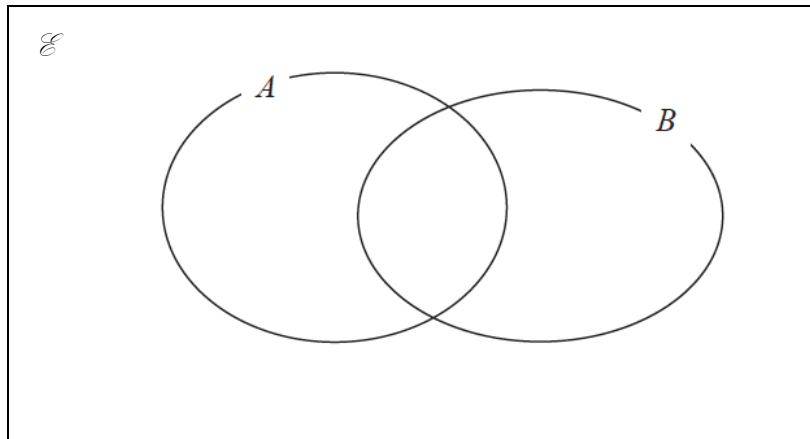
The exchange rate is £1 = 18.53 rand.

Work out the greatest number of 200 rand notes that Liz can get for £850

....

(Total for Question 34 is 3 marks)

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35 $\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

$A = \{1, 5, 6, 8, 9\}$

$B = \{2, 6, 9\}$
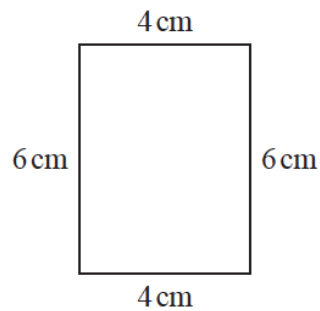
Complete the Venn diagram to represent this information.

(Total for Question 35 is 3 marks)
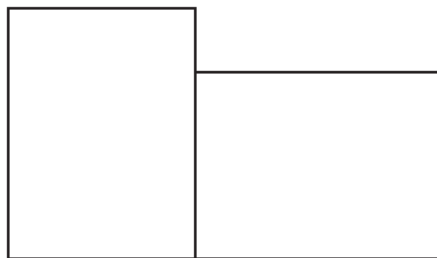
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36 Complete the table of values for $y = 1 + 5x - x^2$

x	-1	0	1	2	3	4	5	6
y		1		7	7		1	

(Total for Question 36 is 2 marks)

37 Here is a rectangle.

4 cm

6 cm   6 cm

4 cm

The 6-sided shape below is made from two of these rectangles.

Work out the perimeter of this 6-sided shape.

.... cm

(Total for Question 37 is 3 marks)

38 The table shows information about the numbers of points scored by 30 students in a quiz.

Number of points	Frequency
0	4
1	3
2	7
3	5
4	6
5	5

Work out the total number of points scored.

....

(Total for Question 38 is 2 marks)

39 Anjali travels from Beijing to Shanghai by train.

The train leaves Beijing at 07 25
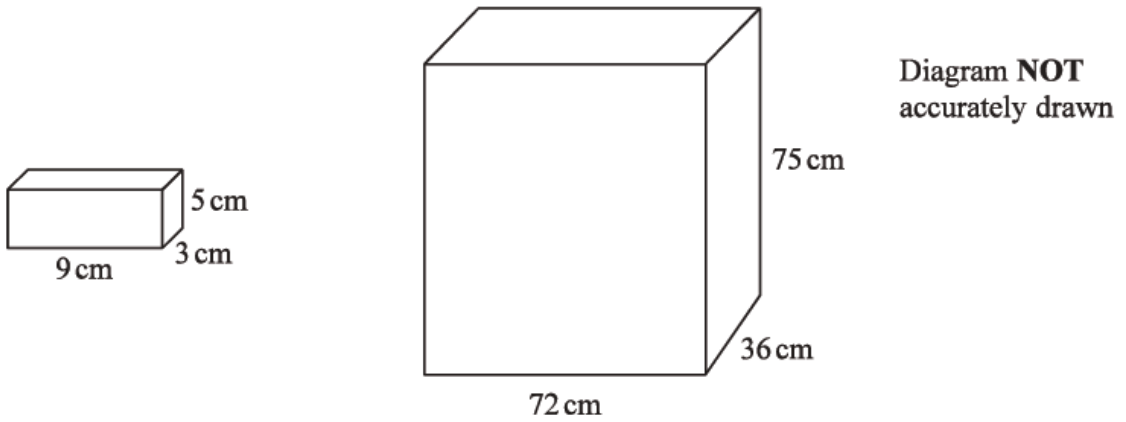The train arrives in Shanghai at 13 15 the same day.

Work out how long the train takes to travel from Beijing to Shanghai.
Give your answer in hours and minutes.

.... hours .... minutes

(Total for Question 39 is 2 marks)

40 Karl has 5700 bricks.
He wants to put all the bricks into crates.

Diagram **NOT** accurately drawn

Each brick is a cuboid measuring 9 cm by 3 cm by 5 cm.

Each crate is a cuboid measuring 72 cm by 36 cm by 7 cm.

Karl has 4 crates.

Is there enough room in the 4 crates for 5700 bricks?
Show your working clearly.

(Total for Question 40 is 4 marks)

41 A football team played 55 games.
Each game was won, drawn or lost.

number of games won: number of games drawn: number of games lost = 6 : 3 : 2

Work out how many more games the team won than the team lost.

(Total for Question 41 is 3 marks)

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42 $y = 5c^2 + 20$

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

$y =$ ....

(Total for Question 41 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS

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