

1.1

Number and Number System

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12 (a) Write $9 \times 9 \times 9 \times 9 \times 9 \times 9$ as a single power of 9

.....
(1)

(b) Write down the prime number that is between 21 and 28

.....
(1)

(c) Find $\sqrt[3]{19\,683}$

.....
(1)

1 (a) Write the number **eight thousand and twenty four** in figures.

.....
(1)

Here are some numbers.

38 5043 623 540

(b) Write these numbers in order of size.
Start with the smallest number.

.....
(1)

There were 76 385 spectators at the 2015 football Asian Cup Final.

(c) (i) Write down the value of the 3 in the number 76 385

- 6 The lowest temperature ever recorded in Saudi Arabia is -11°C .
The highest temperature ever recorded in Saudi Arabia is 51°C .

Work out the difference between these two temperatures.

..... $^{\circ}\text{C}$

(Total for Question 6 is 2 marks)

14 In Jordan, the total cost of 2.5 kg of potatoes and 3 kg of onions is 3.55 dinars.

The cost of $\frac{1}{2}$ kg of onions is 0.30 dinars.

Work out the cost, in Jordan, of 1 kg of potatoes.

..... dinars

(Total for Question 14 is 4 marks)

2 (a) Write down a prime number that is between 75 and 85

.....
(1)

(b) Write down a multiple of both 8 and 12 that is less than 50

.....
(2)

Here are some numbers in a box.

2	9	18	22	27	31
---	---	----	----	----	----

From the numbers in the box, write down

(c) (i) an even number

.....

(ii) the square number

.....

(iii) the cube number

.....
(3)

10 (a) Find the value of $\sqrt{88.36}$

.....
(1)

(b) Find the cube root of 9261

.....
(1)

(c) (i) Find the value of 6.1^4

Write down all the figures on your calculator display.

January 2018 2FR

13 A farmer has 190 eggs.

These eggs are packed into identical boxes.

There are 12 eggs in a completely full box.

The farmer completely fills as many boxes as possible with eggs.

(a) Work out the number of boxes the farmer completely fills.

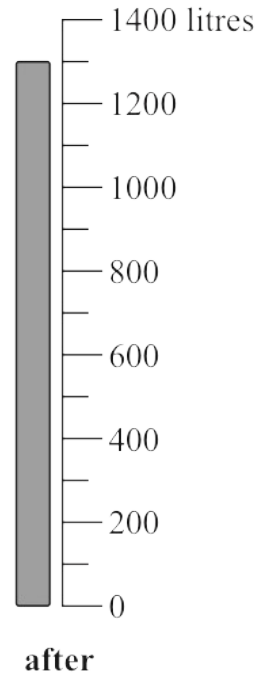
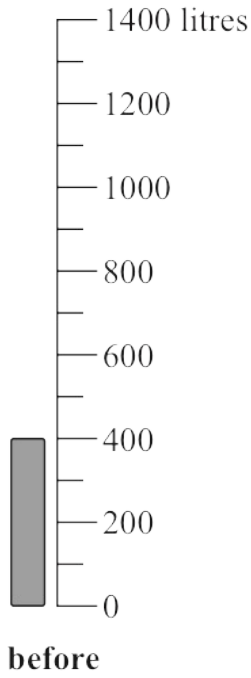
.....
(2)

(b) Work out how many eggs are left over.

.....
(2)

- 3 Joseph buys some heating oil.
He puts it in his oil tank.

The scales show the numbers of litres of oil in the tank immediately before and immediately after Joseph puts the oil in the tank.



The oil Joseph buys costs 0.40 euros per litre.

Work out the total cost of the oil that Joseph buys.

..... euros

(Total for Question 3 is 3 marks)

- 5 (a) Write down a multiple of 8 that is between 20 and 50

.....
(1)

There is only one prime number that is an even number.

- (b) Write down this number.

.....
(1)

Shreya says that 57 is a prime number.

- (c) Is Shreya correct?
Give a reason for your answer.

.....
.....
(1)

7 (a) Write $7 \times 7 \times 7 \times 7 \times 7$ as a power of 7

.....
(1)

(b) Show that 64 is both a square number and a cube number.

(2)

(c) Find the value of 11^3

.....
(1)

(d) Find the value of $\sqrt{98.01}$

.....
(1)

1 The table gives information about the weights, in kilograms, of five animals.

Animal	Weight in kilograms
African buffalo	725
Indian elephant	3178
Giraffe	800
Pilot whale	2205
Walrus	1013

(a) Which animal has the least weight?

.....
(1)

(b) Write down the value of the 1 in the number 3178

.....
(1)

(c) Work out the difference between 2205 and 1013

.....
(1)

The weight of a blue whale is 20 times the weight of the giraffe.

(d) Work out the weight of the blue whale.

Give your answer in tonnes.

1 tonne = 1000kg

..... tonnes
(2)

9 The table shows the temperatures at midnight and at midday at five ski resorts.

Ski resort	Temperature at midnight ($^{\circ}\text{C}$)	Temperature at midday ($^{\circ}\text{C}$)
Chamonix	-5	3
Alto Campoo	-8	-2
Javornik	-5	-4
La Parva	-2	-2
Asiago	-7	0

(a) Which ski resort had the lowest temperature at midnight?

.....
(1)

(b) Work out the increase in temperature from midnight to midday for Chamonix.

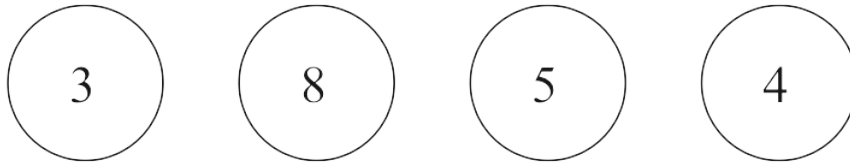
..... $^{\circ}\text{C}$
(1)

Jan knows that the temperature falls by 1°C for every 300 m increase in height above Asiago.

(c) What was the temperature at midnight at a height 1800 m above Asiago?

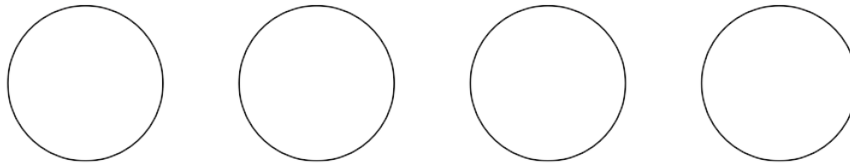
..... $^{\circ}\text{C}$
(2)

- 1 Here are four discs.
Each disc has a number on it.



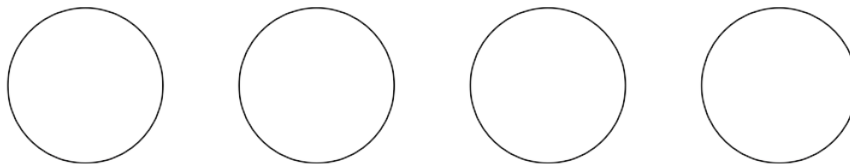
These four discs are arranged to make the number 3854

- (a) Arrange the four discs to make the largest possible number.



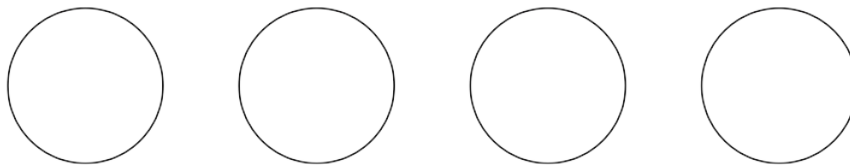
(1)

- (b) Arrange the four discs to make a multiple of 5



(1)

- (c) Arrange the four discs to make the smallest possible odd number.



(1)

6 (a) Write 1782 correct to the nearest hundred.

.....
(1)

(b) Write the number thirty two thousand and forty five in figures.

.....
(1)

Billy works out the answer to $2 + 5 \times 7$
He says that the answer is 49

Billy is not correct as the answer should be 37

(c) Explain what Billy has done wrong.

.....
.....
(1)

Chen says,

“A prime number added to an even number always gives an odd number.”

(d) Give an example to show that Chen is not correct.

.....
(1)

June 2018 2FR

11 (a) Find the cube root of 421.875

.....
(1)

June 2018 2FR

10 3 kg of carrots cost £1.35
5 kg of carrots and 2 kg of potatoes cost a total of £4.15

Find the cost of 1 kg of potatoes.

£.....

(Total for Question 10 is 3 marks)

- 1 (a) Write these numbers in order of size.
Start with the smallest number.

73 138 36 219 89

(1)

- (b) Write in figures the number two thousand and eighteen.

(1)

- (c) Write in words the number 4309

(1)

- (d) Write down the value of the 7 in 9715

(1)

- 4 Megan buys 2 muffins and 1 carrot cake.
The total cost is £4.74

The cost of the carrot cake is £1.80

(a) Find the cost of each muffin.

£

(3)

Caitlin buys some apples and some oranges.
She buys twice as many apples as oranges.

Each apple costs £0.25
Each orange costs £0.30

Caitlin has £5 to spend.

(b) Find the greatest number of apples she can buy.

(3)

7 (a) Write down the prime number between 90 and 100

(1)

(b) Find the value of 3^6

(1)

(c) Find the cube root of 6859

(1)

January 2019 2F

3 Mike buys 150 burger buns.

He buys the burger buns in packs of 6 burger buns.

Each pack of 6 burger buns costs £1.03

Work out how much Mike pays for the 150 burger buns.

£

(Total for Question 3 is 3 marks)

- 1 The table gives information about the lengths of five canals.

Name of canal	Length (km)
Danube-Black Sea	95.6
Kiel	98.4
Manchester	58.3
Panama	77.1
Suez	193.3

- (a) Which of these canals has the least length?

(1)

The length of the Panama Canal is 77.1 km.

- (b) Write 77.1 correct to the nearest 10

(1)

The Kiel Canal was opened on June 20th 1895

- (c) How many years old was the Kiel Canal on June 20th 2000?

(1) years

5 Here is a list of numbers.

12 14 15 16 18 20 22 24

(a) Which number in the list is a multiple of both 6 and 9?

(1)

Two numbers in the list are factors of 90

(b) Which two numbers?

and

(2)

(c) Write down two numbers in the list that have a sum that is a prime number.

and

(1)

12 Andros wants to make a playlist of four songs for a friend.

The total time taken by the four songs will be 20 minutes.

The time taken by each of the first three songs is shown below.

First song	6 minutes 16 seconds
Second song	4 minutes 28 seconds
Third song	4 minutes 35 seconds

Work out the time taken by the fourth song.

Give your answer in minutes and seconds.

minutes

seconds

(Total for Question 12 is 3 marks)

14 (a) Work out $\sqrt{64 \times 36}$

(1)

(b) Work out 11^4

(1)

1

(c) Write a number in the box to make the calculation correct.

$$0.003 \times \boxed{} = 9$$

(1)

5 The table gives the midnight temperatures on 1st January for five cities in the USA.

City	Midnight temperature
Boston	-5°C
Philadelphia	-4°C
Orlando	10°C
Chicago	-6°C
Phoenix	8°C

Here are the temperatures in $^{\circ}\text{C}$.

-5 -4 10 -6 8

(a) Write these numbers in order of size.
Start with the smallest number.

(1)

(b) Work out the difference between the midnight temperature in Orlando and the midnight temperature in Boston.

(1) $^{\circ}\text{C}$

(c) Work out the temperature that is exactly halfway between 8°C and -6°C .

(1) $^{\circ}\text{C}$

On 1st January the midnight temperature in Minneapolis was 10°C lower than the midnight temperature in Philadelphia.

(d) Work out the midnight temperature in Minneapolis.

(1) $^{\circ}\text{C}$

9 Pierre bought

2 cups of coffee at 2.10 euros a cup
2 cups of tea at 1.80 euros a cup
and 3 croissants

Pierre paid with a 20 euro note.
He received 8.75 euros change.

The cost of each croissant was the same.

Work out the cost of 1 croissant.

euros

(Total for Question 9 is 3 marks)

1

3	8	16	19	24	51	60	81
---	---	----	----	----	----	----	----

From the numbers in the box, write down

(a) an odd number

.....
(1)

(b) a multiple of 12

.....
(1)

(c) a square number

.....
(1)

(d) a prime number

.....
(1)

- 3 The table gives the surface areas, in square kilometres, of six lakes in Africa.

Lake	Surface area (square kilometres)
Albert	5299
Malawi	29 500
Mweru	5120
Tanganyika	32 600
Turkana	6405
Victoria	68 879

- (a) Which of these lakes has the least surface area?

.....
(1)

- (b) Write the number 6405 in words.

.....
(1)

- (c) Write the number 68 879 correct to the nearest thousand.

.....
(1)

Sammy says that the surface area of Lake Malawi is about $5\frac{1}{2}$ times the surface area of Lake Albert.

- (d) Is Sammy correct?

Give a reason for your answer.

.....
.....
(2)

- 1 (a) Write these numbers in order.
Start with the smallest number.

3 -8 1 -5 0

(1)

- (b) Write these numbers in order of size.
Start with the smallest number.

2.5 2.85 2.082 2.28 2.805

(1)

- (c) Find

(i) the value of $\sqrt{196}$

(ii) the cube root of 6859

(2)

- 8 Nina buys 8 pencils and 13 identical rulers.
Each pencil costs \$0.58
The total cost is \$23.62

(a) Work out the cost of each ruler.

\$
(3)

Bjorn has \$15 to spend on pens.
Each pen costs \$0.62
He buys as many pens as he can.

(b) Work out how much change Bjorn should get.

\$
(3)

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

(i) + 357 = 486

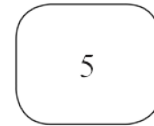
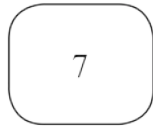
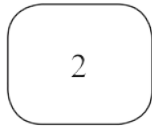
(ii) × 23 = 1840

(2)

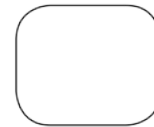
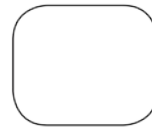
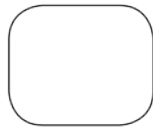
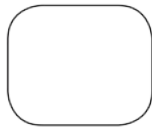
Here are four cards.

Each card has a number on it.

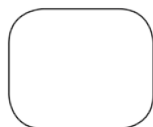
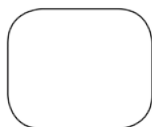
The four cards are arranged to make the number 2745



- (b) (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.



(2)

5 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)

7 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 7 is 3 marks)

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) Write the number 9280 in words.

.....
(1)

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

.....
(1)

(c) Write down the value of the 7 in 10 734

.....
(1)

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

.....
(1)

(e) Write the number 16 983 correct to the nearest thousand.

.....
(1)

5 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.

.....

8 Sandeep has 1200 rupees to spend on pencils.
Each pencil costs 45 rupees.

Sandeep buys as many pencils as he can.

Work out how much change Sandeep should get.

..... rupees

9 Anjali travels from Beijing to Shanghai by train.

The train leaves Beijing at 0725

The train arrives in Shanghai at 1315 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

1 The table shows the land area, in km², of each of six African countries.

Country	Land area (km ²)
Botswana	566 730
Kenya	569 140
Namibia	823 290
Somalia	627 340
Tanzania	885 800
Zambia	743 390

(a) Write down the name of the country with the greatest land area.

.....
(1)

(b) Write 823 290 correct to the nearest thousand.

.....
(1)

(c) Work out the difference between the land area of Botswana and the land area of Kenya.

..... km²
(1)

The land area of the Gambia is 10 120 km²

(d) Write the number 10 120 in words.

.....
.....
(1)

1 Here is a list of numbers

13 14 18 23 30 36

From the numbers in the list, write down

(i) an odd number

.....
(1)

(ii) the multiple of 4

.....
(1)

(iii) the factor of 28

.....
(1)

10 In a shop,

3 bottles of juice cost \$5.25

2 bottles of juice and 5 bars of chocolate cost \$9.75

Work out the cost of 5 bottles of juice and 3 bars of chocolate.

\$.....

The table gives information about the boiling points and the freezing points of some elements.

Element	Chlorine	Mercury	Neon	Oxygen
Boiling point (°C)	-35	357	-246	-183
Freezing point (°C)	-101	-39	-249	-218

(b) Which of these elements has the lowest boiling point?

.....
(1)

(c) Which of these elements has the largest difference in temperature between its boiling point and its freezing point?

.....
(1)

Dr Strauss is going to cool chlorine from its boiling point to its freezing point. He knows that it will take 2 minutes for the temperature of the chlorine to go down 10°C.

(d) Work out how long it will take the chlorine to cool from its boiling point to its freezing point?

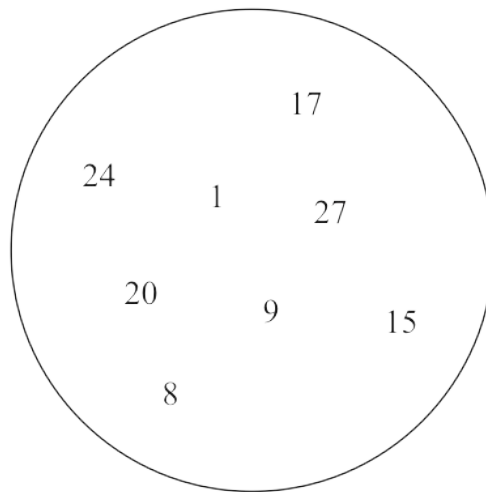
..... minutes
(2)

1



(a) Write down the largest possible four digit number using all the digits that are in the box.

.....
(1)



From the numbers in the circle, write down

(b) a multiple of 6

.....
(1)

(c) a prime number

.....
(1)

- 2 At 6 pm, the temperature in Victoria's garden was 5°C .
By midnight, the temperature in Victoria's garden had fallen by 9°C .

(a) Work out the temperature in Victoria's garden at midnight.

..... $^{\circ}\text{C}$
(2)

4 Mike is going to buy

1 hammer at £6

2 boxes of nails at £3.50 for each box

4 pieces of wood at £4.20 for each piece

some pairs of gloves at £1.80 for each pair

Mike has £40 to spend in total on these items.

He wants to buy as many pairs of gloves as he can.

Work out the greatest number of pairs of gloves that Mike can buy.

(Total for Question 4 is 4 marks)

1 (a) Write in figures the number **seventy thousand, two hundred and sixteen**.

.....
(1)

(b) Write down a common factor of 20 and 30

.....
(1)

(c) Write down a square number that is between 20 and 40

.....
(1)

(d) Find the cube root of 3375

.....
(1)

(e) Write brackets in the following calculation so that the answer is correct.

$$42 - 6 \div 6 - 3 = 40$$

(1)

- 1 The table gives information about the amount of crude oil, in barrels, produced per day by each of six countries in 2015

Country	Crude oil produced per day (number of barrels)
Australia	322 300
Congo	269 000
Gabon	213 300
South Sudan	220 000
Thailand	248 200
Vietnam	333 400

- (a) Write down the name of the country that produced the least number of barrels of crude oil.

.....
(1)

- (b) Work out the difference between the number of barrels of crude oil produced by Vietnam and the number of barrels of crude oil produced by Australia.

.....barrels
(1)

5 Matt buys a notebook and some pencils.

The notebook costs \$2.35

Each pencil costs \$0.74

Matt has a total of \$20 to spend on the notebook and the pencils.

He buys the greatest number of pencils that he can.

Work out how many pencils he buys.

.....
(Total for Question 5 is 3 marks)

1 Here is a list of numbers.

1	17	21	25	26	31	39	64
---	----	----	----	----	----	----	----

From this list, write down

(a) an even number

.....
(1)

(b) a multiple of 3

.....
(1)

(c) a prime number

.....
(1)

(d) a cube number

.....
(1)

4 The table gives the minimum temperature for January 2018 in each of six cities.

City	Minimum temperature (°C)
Barcelona	3
Donetsk	-10
Mexico City	-1
Mombasa	22
New York	-15
Sydney	15

(a) Which of these six cities has the lowest minimum temperature?

.....
(1)

(b) Work out the difference between the minimum temperature of Donetsk and the minimum temperature of Sydney.

.....°C
(1)

The minimum temperature in Edmonton for January 2018 was 50°C less than the minimum temperature in Mombasa for January 2018

(c) Work out the minimum temperature in Edmonton for January 2018

.....°C
(1)

1 The table shows the height, in metres, of each of seven volcanoes.

Volcano	Height (metres)
Acamarachi	6046
Bazman	3490
Dona Juana	4150
Kamen	4585
Mount Ararat	5137
Ojos del Salado	6893
Semeru	3676

(a) Which of these volcanoes has the greatest height?

.....
(1)

(b) Write down the value of the 8 in the number 4585

.....
(1)

(c) Write the number 6046 in words.

.....
(1)

(d) Write the number 5137 correct to the nearest hundred.

.....
(1)

(e) Work out the difference in the height of the Acamarachi volcano and the height of the Semeru volcano.

..... metres
(1)

10 In Koko's shop

5 chocolate bars cost \$5.75

2 chocolate bars and 3 packets of sweets cost \$7.85

Work out the cost of one packet of sweets.

\$.....

(Total for Question 10 is 3 marks)

1 Here is a list of numbers in a box.

6	8	17	36	44	76	91
---	---	----	----	----	----	----

From the numbers in the list, write down

(a) a multiple of 11

.....
(1)

(b) a factor of 30

.....
(1)

(c) a square number

.....
(1)

(d) a prime number

.....
(1)

(e) two numbers whose sum is 84

..... and
(1)

3 The temperature in New York is -2°C

At the same time, the temperature in Rabat is 16°C higher than the temperature in New York.

(a) Work out the temperature in Rabat.

..... $^{\circ}\text{C}$
(1)

Also, at the same time, the temperature in Helsinki is 17°C lower than the temperature in New York.

(b) Work out the temperature in Helsinki.

..... $^{\circ}\text{C}$
(1)

1 The table shows the heights, in metres, of five mountains.

Mountain	Height (metres)
Aconcagua	6961
Makalu	8485
Kilimanjaro	5895
Mont Blanc	4810
Puncak Jaya	4884

(a) Which of these mountains has the greatest height?

.....
(1)

(b) Write the number 5895 in words.

.....
(1)

(c) Write down the value of the 8 in 4810

.....
(1)

(d) Work out the difference between the height of Aconcagua and the height of Puncak Jaya.

..... metres
(1)

4 Iwan is going to buy the following items

1 plant pot at £8

3 bags of soil at £4.50 for each bag

some packets of seeds at £1.10 for each packet.

Iwan has a total of £30 to spend on these items.

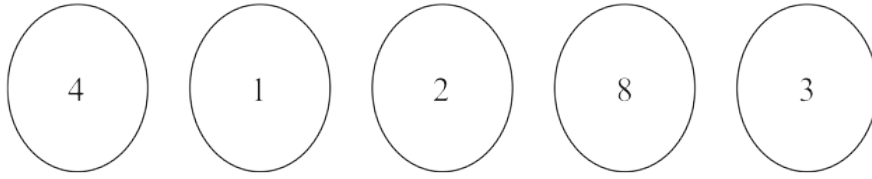
He buys as many packets of seeds as he can.

Work out how much change Iwan should receive.

£.....

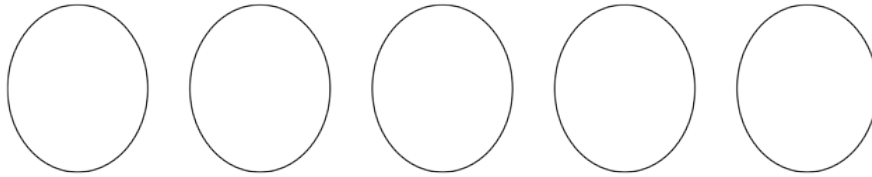
(Total for Question 4 is 4 marks)

- 1 Here are five discs.
Each disc has a number on it.



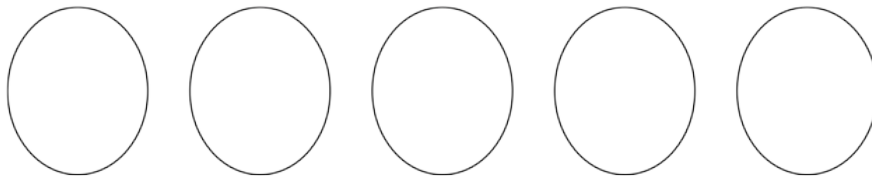
These five discs are arranged to make the number 41283

- (a) Show how all five discs can be arranged to make the smallest number.



(1)

- (b) Show how all five discs can be arranged to make the largest **even** number.



(1)

- (c) Which of the five numbers on the discs are factors of 21?

.....
(2)

- (d) Which of the five numbers on the discs are prime numbers?

.....
(2)

5 The table shows the temperature recorded in Amsterdam at 6 am on each of five days.

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Temperature (°C)	-5	-1	4	3	-6

(a) What is the range of the temperatures in the table?

.....°C
(2)

(b) What is the median of the temperatures in the table?

.....°C
(2)

(c) What percentage of the temperatures in the table are lower than 0 °C?

.....%
(2)

On Saturday of the same week, the temperature recorded in Amsterdam at 6 am was 8 °C higher than the temperature recorded at 6 am on Friday.

(d) What was the temperature recorded in Amsterdam at 6 am on Saturday?

.....°C
(2)

1

8	9	17	35	48	80
---	---	----	----	----	----

From the numbers in the box, write down

(a) a factor of 40

.....
(1)

(b) a multiple of 7

.....
(1)

(c) a prime number

.....
(1)

(d) a square number

.....
(1)

(e) the two numbers with a difference of 31

..... and
(1)

- 3 Find the number that is exactly halfway between 3.7 and 6.1

(Total for Question 3 is 2 marks)

- 6 Janine has 2 litres of orange squash.

She also has some empty cups.

When full, each cup holds 300 millilitres of orange squash.

Janine fills as many cups as possible.

How much orange squash does Janine have left after filling as many cups as possible?

State the units of your answer.


(Total for Question 6 is 3 marks)

9 In a shop, pens cost 34 cents each.

The shop has a special offer on the pens.

Special offer

Pay for 2 pens and get 1 free



34 cents 34 cents Free

Moritz wants 25 pens.

Work out how much Moritz has to pay for 25 pens.

.....cents

(Total for Question 9 is 3 marks)

1 The table shows the length, in kilometres, of the coastline of each of five oceans.

Ocean	Length (kilometres)
Arctic	45 389
Atlantic	111 866
Indian	66 526
Pacific	135 663
Southern	17 968

(a) Which of these oceans has the greatest length of coastline?

.....
(1)

(b) Write the number 17 968 in words.

.....
(1)

(c) Write the number 66 526 correct to the nearest thousand.

.....
(1)

(d) Work out the total length of the coastlines of the Arctic Ocean and the Pacific Ocean.

..... kilometres
(1)

14

(b) Write one pair of brackets in this calculation so that the answer is correct.

$$9 \times 8 - 5 - 2 = 25$$

(1)

(c) Work out the value of $\frac{\sqrt{8.9}}{6.2 - 3.5}$

Give your answer as a decimal.

Write down all the figures on your calculator display.

(2)

- 2 The table shows the average number of spectators per match, for each of six Spanish football teams, in one season.

Team	Average number of spectators per match
Real Betis	46 393
Valencia	38 699
Barcelona	65 731
Athletic Bilbao	37 378
Sevilla	33 069
Real Madrid	65 027

- (a) Which team had the lowest average number of spectators per match?

.....
(1)

- (b) Write the number 65 731 correct to the nearest thousand.

.....
(1)

- (c) Write down the value of the 6 in the number 38 699

.....
(1)

- 4 The table shows the temperatures recorded at midnight and at midday for each of five North American cities on a Monday one week.

City	Midnight temperature (°C)	Midday temperature (°C)
Boston	- 2	14
Houston	11	20
Chicago	- 8	7
Detroit	- 7	- 1
New York	0	12

- (a) Which city had the lowest midnight temperature?

.....
(1)

- (b) Find the difference between the midnight temperature and midday temperature for Boston.

.....°C
(1)

From Monday to Thursday, the midday temperature in Detroit increased by 2°C each day.

- (c) Work out the midday temperature in Detroit on Thursday.

.....°C
(2)

(Total for Question 4 is 4 marks)

- 8 The table shows information about the grades some Year 9 students gained in a biology test and in a physics test. The highest grade is **A** and the lowest grade is **D**.

		Biology			
		A	B	C	D
Physics	Grades				
	A	8	6	2	1
	B	3	5	4	0
	C	4	2	6	2
D	0	0	5	0	

- (a) How many students gained a grade **C** in biology?

.....
(2)

- (b) How many students gained the same grade in biology as they gained in physics?

.....
(2)

- (c) How many students gained a higher grade in biology than they gained in physics?

.....
(2)

2

- (b) Write down the value of 6 in the number 54.623

.....
(1)

7 Carmel is working out the cost of using her mobile phone in March.

Here is the information that she uses.

Calls	465 minutes	(first 400 minutes free)
Texts	1740 messages	(first 1500 messages free)
<u>Costs</u>		
Monthly charge	\$20.75	
Calls	\$0.10 per minute	
Texts	\$0.05 each message	

Work out the total cost that Carmel has to pay for using her mobile phone in March.

S.....

(Total for Question 7 is 4 marks)

10

The cost of 16 sandwiches of the same type is 28 euros.

(c) Work out the cost of 27 of these sandwiches.

..... euros
(2)

1 The table shows the average annual rainfall, in mm, for each of five countries.

Country	Average annual rainfall (mm)
Colombia	3240
Jamaica	2051
Brazil	1761
Japan	1668
France	867

(a) Write the number 2051 in words.

.....
(1)

(b) Write the number 1668 correct to the nearest hundred.

.....
(1)

The average annual rainfall for Colombia is more than the average annual rainfall for Brazil.

(c) How much more?

..... mm
(1)

The average annual rainfall for Nigeria was 283 mm more than the average annual rainfall for France.

(d) Work out the average annual rainfall for Nigeria.

..... mm
(1)

- 5 Angelina buys
- 3 packets of seeds at \$2.45 each packet
 - 2 bags of compost at \$6.20 each bag
 - and 4 plant pots

Each plant pot costs the same amount of money.

Angelina paid a total of \$34.35 for the seeds, compost and plant pots.

Work out the cost of each plant pot.

\$.....

(Total for Question 5 is 4 marks)

2 Here is a list of numbers.

3 8 9 14 23 28 30

(a) From the numbers in the list, write down

(i) a cube number

.....
(1)

(ii) a factor of 70

.....
(1)

(iii) a multiple of 6

.....
(1)

(iv) a prime number.

.....
(1)

- 4 The table below shows the maximum recorded temperature and the minimum recorded temperature on one day in each of four countries.

Country	Maximum recorded temperature	Minimum recorded temperature
Morocco	19 °C	11 °C
Qatar	21 °C	18 °C
Finland	-19 °C	-28 °C
Canada	8 °C	-40 °C

- (a) Which country has the highest maximum recorded temperature?

.....
(1)

- (b) Work out the difference between the maximum recorded temperature in Finland and the minimum recorded temperature in Finland.

..... °C

(1)

On the same day, the minimum recorded temperature in Japan is 15 °C lower than the minimum recorded temperature in Morocco.

- (c) Work out the minimum recorded temperature in Japan.

..... °C

(1)

1

10	15	23	25	27	28	33	35
----	----	----	----	----	----	----	----

(a) From the numbers in the box, write down

(i) an even number

.....

(ii) a multiple of 9

.....

(iii) a prime number

.....

(3)

Here are four cards.

Each card has a number on it.

The four cards are arranged to make the number 7358



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



(ii) Show how the four cards can be arranged to make a correct calculation below.

$$\square \square + \square \square = 95$$

(2)

14 Work out the value of $\sqrt{7.4} + \frac{5.1^2}{3}$

Write down all the figures on your calculator display.

(Total for Question 14 is 2 marks)

1 The table gives the total area of forest in each of six countries.

Country	Area of forest (km ²)
South Africa	92 410
Denmark	5871
El Salvador	2870
Bahamas	5150
Jamaica	3371
Syria	4910

(a) Which of these six countries has the least total area of forest?

.....
(1)

(b) Write down the value of the 4 in 92 410

.....
(1)

Two of the six countries each have a total area of forest of 5000 km² when rounded to the nearest thousand.

(c) Write down the name of the two countries.

..... and
(1)

(d) Write the number 3371 in words.

.....
(1)

5

Here is a list of four words that can be used to describe numbers.

cube	square	prime	negative
------	--------	-------	----------

(e) Use the word from the list to complete the sentence below correctly.

25 is a number

(1)

1 Nav found the following table that shows the age, in years, of each of seven cities.

City	Age (years)
Cadiz	3124
Suzhou	2534
Jenin	4469
Istanbul	2704
Nanjing	2516
Gaziantep	5669
Alexandria	2351

(a) Write down the name of the city with the greatest age.

.....
(1)

(b) Write the number 2534 in words.

.....
(1)

(c) Write the number 2351 correct to the nearest ten.

.....
(1)

(d) Work out the difference between the age of Cadiz and the age of Nanjing.

..... years
(1)

A millennium is 1000 years.

(e) What is the age of Jenin in whole millenniums?

..... millenniums
(1)

5 Here is a list of numbers.

3 6 7 8 11 25 27

(a) From the numbers in the list, write down

(i) an even number

.....
(1)

(ii) a multiple of 9

.....
(1)

(iii) a square number

.....
(1)

(iv) a prime number

.....
(1)

(b) Use brackets to make the statement correct.

You may use more than one pair of brackets in the statement.

$$2^2 + 5 \times 2 + 3^2 = 99$$

(1)

- 7 Sandeep buys some flowers.
He has 5000 rupees to spend.

He buys 6 carnations at 220 rupees each.
He also buys some roses at 295 rupees each.

Sandeep should receive 140 rupees in change from his 5000 rupees.

Work out how many roses Sandeep buys.

.....
(Total for Question 7 is 4 marks)

1

- (d) Write these numbers in order of size.
Start with the smallest number.

-7 8 -9 16 -3

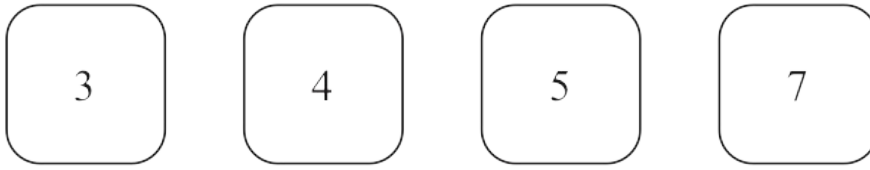
(1)

- 15 Use your calculator to work out the value of

$$\frac{5.21 + 6.37}{9.8} + 8.3^2$$

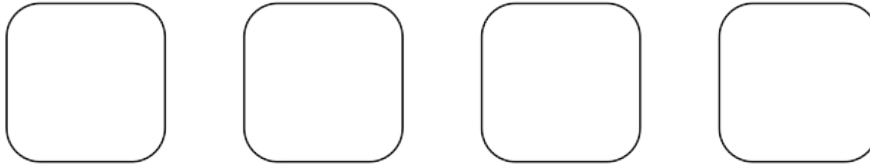
Write down all the figures on your calculator display.

- 1 Here are four cards.
Each card has a number written on it.



These four cards are arranged to make the number 3457

- (a) Arrange the four cards to make the largest possible even number.



(1)

Darren arranges the cards to make another number.

The difference between the number 3600 and the number that Darren makes is as small as possible.

- (b) Find this difference.

.....
(2)

6 Here is a list of seven numbers.

5 16 23 27 50 160 240

(a) From the numbers in the list, write down

(i) a cube number

.....
(1)

(ii) a factor of 80

.....
(1)

Two numbers in the list are prime numbers.

(b) Work out the sum of these two prime numbers.

.....
(2)

8 Masie is told that $13\,203 \div 27 = 489$

Explain how she can use this calculation to work out 489×28

.....

.....

.....

(Total for Question 8 is 2 marks)

11 Sophia spends a total of £6.30 on cheese.

She buys 500 g of Cheddar cheese and 200 g of Stilton cheese.

The cost of the Cheddar cheese is £9.20 for 1 kg.

Work out the cost of 1 kg of the Stilton cheese.

£.....

(Total for Question 11 is 4 marks)

16 Work out the value of

$$\frac{15.2 \times 4.1}{8 - \sqrt{3.7}}$$

Write down all the figures on your calculator display.

(Total for Question 16 is 2 marks)

- 1 (a) Write these numbers in order of size.
Start with the smallest number.

202 58 123 7 180

(1)

- (c) Write in figures the number five thousand two hundred and three.

(1)

- (d) Write down the value of the 6 in the number 2468

(1)

6 (a) Find the value of

(i) $\sqrt{31.36}$

.....
(1)

(ii) 14^3

.....
(1)

(b) Write a number on each dotted line to make the calculation correct.

(i) $10 - \dots \times 2 = 4$

(1)

(ii) $(5 + \dots) \times 3 = 36$

(1)

June 2022 2FR

8 Jordan buys 256 notebooks.

He buys the notebooks in packs of 8 notebooks.

Each pack of 8 notebooks costs £2.48

Work out how much the 256 notebooks cost Jordan.

£.....

1 The table gives information about six plays written by William Shakespeare.

Play	Number of words	Year written
The Taming of the Shrew	21 055	1592
Henry V	26 119	1599
Hamlet	30 557	1602
Macbeth	17 121	1606
Julius Caesar	19 703	1599
King John	20 772	1596

(a) Which of these six plays has the greatest number of words?

.....
(1)

Two of these six plays were written in the same year.

(b) Write down the name of each of these plays.

..... and
(1)

The play Othello has 9329 more words in it than the play Macbeth.

(c) Work out the number of words in the play Othello.

.....
(1)

(d) Write the number 21 055 in words.

.....
(1)

- 2 Luca has 5 kg of chopped tomatoes.
He also has some empty tins.

When full, each tin holds 350 g of chopped tomatoes.

Luca fills as many tins as possible with the chopped tomatoes.

Work out the weight of the chopped tomatoes remaining after Luca has filled as many tins as possible.

Give the units of your answer.

(Total for Question 2 is 4 marks)

4

(b) Write down the value of the 3 in the number 4.7634

.....
(1)

(e) Find the square root of 1296

.....
(1)

- 1 Here are four cards.
Each card has a number on it.



These four cards are arranged to make the number 5763

- (a) Arrange the four cards to make the smallest possible number.



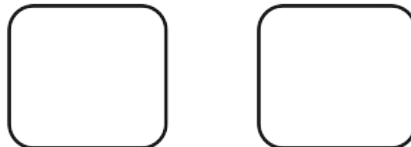
(1)

- (b) Arrange the four cards to make the largest possible **even** number.



(1)

- (c) Arrange two of the cards to make a prime number.



(1)

- (d) Arrange two of the cards to make a multiple of 8



(1)

(Total for Question 1 is 4 marks)

11 (a) Work out the value of $(4 + 3 + 6)^2$

.....
(1)

$$64 = 4^n$$

(b) Write down the value of n

$n =$
(1)

(c) Work out the value of $\frac{\sqrt{9.3 + 2.8^3}}{3.2 \times 1.2}$

Write down all the figures on your calculator display.

.....
(2)

1 Here is a list of numbers.

2 8 14 15 16 18 20

From this list, write down

(a) the odd number

.....
(1)

(b) the multiple of 6

.....
(1)

(c) the square number

.....
(1)

(d) the prime number

.....
(1)

(e) two numbers with a sum of 26

.....
(1)

5 Zoya buys a book and some pencils.

The book costs £6.90

Each pencil costs £0.55

Zoya has a total of £15 to spend on the book and the pencils.

She buys as many pencils as she can.

Work out how many pencils she buys.

.....
(Total for Question 5 is 3 marks)

1

(b) Write in figures the number five thousand, one hundred and two.

.....
(1)

(c) Write down the value of the 3 in the number 7439

.....
(1)

(d) Write the number 651 correct to the nearest hundred.

.....
(1)

- 9 (a) Write the time 8 30 pm using the 24-hour clock.

.....
(1)

Ella started watching television at 10 50 am.

Ella watched

- a comedy programme lasting 45 minutes
- a sports programme lasting 1 hour 10 minutes
- a history programme

There were no breaks and no advertisements between the programmes.

Ella finished watching television at 2 20 pm.

- (b) How long did the history programme last?
Give your answer in minutes.

..... minutes
(3)

- 2 Melanie finds this information about the number of people, in millions, who speak each of five languages as their first language.

Language	Number of people (in millions)
Spanish	480
Greek	13
Mandarin Chinese	918
Tamil	75
Japanese	128

- (a) Which of these languages is the first language of the greatest number of people?

.....
(1)

More people speak Japanese as their first language than speak Greek as their first language.

- (b) How many more?

..... million
(1)

The number of people who speak Tamil as their first language is $\frac{1}{4}$ of the number of people who speak Bengali as their first language.

- (c) Work out the number of people who speak Bengali as their first language.

..... million
(1)

It is estimated that 861 700 people can speak Welsh.

- (d) Write 861 700 in words.

.....
.....
(1)

- 1 (a) Write in figures the number seven thousand and fifty four.

.....
(1)

- (b) Write the number 78263 correct to the nearest 100

.....
(1)

- (c) Write down the value of the 7 in the number 673 000

.....
(1)

- (d) Write a number in the box to make the calculation correct.

$$9 \times \boxed{} = 18\,000$$

(1)

- (e) Write a number in the box to make the calculation correct.

$$53.7 \div \boxed{} = 0.005\,37$$

(1)

2 Here is a list of numbers.

9 11 13 15 21 60

From the numbers in the list, write down

(a) the even number

.....
(1)

(b) the square number

.....
(1)

(c) the multiple of 7

.....
(1)

(d) the factor of 30

.....
(1)

10 Adriana makes some cupcakes.

She sells each cupcake for £2.20

Mike buys 6 of these cupcakes.

He pays with a £20 note.

(a) Work out how much change Mike should receive.

£.....
(2)

Greta sells balloons.

She sells each balloon for £0.85

Stefan has £50 to spend on balloons.

(b) Work out the greatest number of balloons he can buy.

.....
(2)

1

20	21	23	25	27	29
----	----	----	----	----	----

From the numbers in the box, write down

(a) (i) the even number,

.....
(1)

(ii) the square number.

.....
(1)

prime	square	cube	factor	product
-------	--------	------	--------	---------

(b) Complete the following statements by writing a suitable word from the box on each of the dotted lines.

(i) 343 is the of 7
(1)

(ii) 9 is a of 63
(1)

(Total for Question 1 is 4 marks)

- 3 The table shows the mean daytime temperature for each of five planets.

Planet	Temperature (°C)
Jupiter	-160
Mars	-30
Mercury	430
Neptune	-210
Venus	470

- (a) Which of these five planets has the lowest mean daytime temperature?

.....
(1)

- (b) Work out the difference between the mean daytime temperature for Jupiter and the mean daytime temperature for Venus.

..... °C
(1)

(Total for Question 3 is 2 marks)

1 Here is a list of numbers.

9 11 25 27 33 40

(a) From the numbers in the list, write down

(i) an even number

.....
(1)

(ii) a cube number

.....
(1)

Here are the temperatures, in °C, in Paris at midnight for one week.

-3 -7 -2 -6 -9 -1 -5

(b) Write down the lowest temperature.

..... °C
(1)

(c) Find the square root of 441

.....
(1)

Hassan says,

“the sum of two prime numbers is always even”

(d) Give an example to show that Hassan is **not** correct.

.....
(1)

- 6 Akbar goes to a restaurant with his friends.
They have a total of 1000 dirhams to spend on food.

They order

- 2 dishes of chicken makhani at 145.50 dirhams each
- 3 dishes of vegetable korma at 110 dirhams each
- some naans at 30 dirhams each

They order as many naans as they can.

They pay with a 1000 dirham note.

Work out how much change they should receive.

..... dirhams

(Total for Question 6 is 4 marks)

- 1 The table gives information about the weight of sugar produced by each of five countries in one year.

Country	Weight (tonnes)
Japan	72 900
Barbados	15 745
Kenya	592 668
Gabon	23 787
Malaysia	28 149

- (a) Write the number 28 149 in words.

.....
.....
(1)

- (b) Which of these five countries produced the greatest weight of sugar?

.....
(1)

- (c) Write down the value of the 8 in the number 23 787

.....
(1)

- (d) Write the number 15 745 correct to the nearest thousand.

.....
(1)

- 9 3 kg of carrots and 5 kg of potatoes cost a total of 207 rand.
2 kg of the carrots cost 48 rand.

Work out the cost of 1 kg of potatoes.

..... rand

(Total for Question 9 is 4 marks)

14 Work out the value of $\frac{5.2^2 + 8.7}{\sqrt{14.5}}$

Write down all the figures on your calculator display.

(Total for Question 14 is 2 marks)
