Numbers & Accuracy
Difficulty: Easy

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Numbers & Accuracy
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **36 minutes**

Score: **/28**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

$\sqrt{5}$ $\quad -7 \quad 343 \quad -11 \quad 0.4 \quad 2.5 \quad \frac{1}{3}$

From this list of numbers, write down

(a) a cube number, [1]

(b) the smallest number, [1]

(c) A natural number. [1]

Question 2

One day, at noon, in Maseru, the temperature was 17 °C. At midnight the temperature was 20 °C lower. [1]

Work out the temperature at midnight.

Question 3

(a) 1 and 12 are factors of 12.

Write down all the other factors of 12. [1]

(b) Write down the multiples of 9 between 20 and 40. [1]

Question 4

Write 23.4571 correct to

(a) 4 significant figures, [1]

(b) the nearest 10. [1]

Question 5

The table shows the temperatures in five places at 10 am one day in January.

Place	Temperature (°C)
Helsinki	-7
Chicago	-10
London	3
Moscow	-4
Bangkok	26

[1]

(a) Which place was the coldest?

(b) At 2 pm the temperature in Helsinki had increased by 4 °C. [1]

Write down the temperature in Helsinki at 2 pm.

Question 6

Write 0.071 64 correct to 2 significant figures. [1]

Write down the temperature which is 5 °C below –2 °C. [1]

Question 8

Write 0.040 190 7 correct to

(a) 3 significant figures, [1]

(b) 3 decimal places. [1]

Question 9

Simplify.

$n^2 \times n^5$ [1]

Find the lowest common multiple (LCM) of 36 and 48. [2]

Question 11

Write 3.5897 correct to 4 significant figures. [1]

Question 12

8 9 10 11 12 13 14 15 16

From the list of numbers, write down

(a) the square numbers, [1]

(b) a prime factor of 99. [1]

Write 71 496 correct to 2 significant figures.

[1]

Question 14

Find the highest common factor (HCF) of 56 and 70.

[2]

Question 15

(a) Write 2016 as the product of prime factors.

[3]

(b) Write 2016 in standard form.

[1]

Question 16

At midnight the temperature in Newtown was –8 °C.
At noon the next day the temperature in Newtown was 9 °C.

Work out the rise in temperature from midnight to noon.

[1]

Numbers & Accuracy
Difficulty: Easy

Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Numbers & Accuracy
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 2

Time allowed: **35 minutes**

Score: **/27**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

By writing each number correct to 1 significant figure, estimate the value of $\frac{\sqrt{3.9} \times 29.3}{8.9 - 2.7}$.

Show all your working.

[2]

Question 2

Work out the highest common factor (HCF) of 36 and 90.

[2]

Question 3

Write down the difference in temperature between 8°C and −9°C.

[1]

Question 4

Write 168.9 correct to 2 significant figures. [1]

Question 5

11 12 13 14 15 16

From the list of numbers, write down

(a) the factors of 60,

[1]

(b) the prime numbers. [1]

Question 6

At noon the temperature was 4 °C.
At midnight the temperature was –5.5 °C.

[1]

Work out the difference in temperature between noon and midnight.

(a) Write 30 as a product of its prime factors. [2]

(b) Find the lowest common multiple (LCM) of 30 and 45. [2]

Question 8

Find the lowest common multiple (LCM) of 24 and 32. [2]

.

Question 9

Write 15.0782 correct to

(a) one decimal place, [1]

(b) the nearest 10. [1]

Insert **one pair** of brackets only to make the following statement correct.

$$6 + 5 \times 10 - 8 = 16$$

[1]

Question 11

(a) Write 90 as a product of prime factors. [2]

(b) Find the lowest common multiple of 90 and 105. [2]

Question 12

$$p = \frac{4.8 \times 1.98276}{16.83}$$

(a) In the spaces provided, write each number in this calculation correct to 1 significant figure. [1]

(b) Use your answer to **part (a)** to estimate the value of p. [1]

Question 13

(a) Write 569000 correct to 2 significant figures. [1]

(b) Write 569 000 in standard form. [1]

Question 14

March 2011, the average temperature in Kiev was 3°C.
In March 2012, the average temperature in Kiev was 19°C lower than in March 2011.
Write down the average temperature in Kiev in March 2012. [1]

Numbers & Accuracy
Difficulty: Easy

Question Paper 3

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Numbers & Accuracy
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 3

Time allowed: **43 minutes**

Score: **/33**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Calculate $\frac{5.27-0.93}{4.89-4.07}$

Give your answer correct to 4 significant figures.

[2]

Question 2

One January day in Munich, the temperature at noon was 3°C.
At midnight the temperature was –8°C.

Write down the difference between these two temperatures.

[1]

The sum of the prime numbers less than 8 is equal to 17.

(a) Find the sum of the prime numbers less than 21. [2]

(b) The sum of the prime numbers less than x is 58.

Find an integer value for x. [2]

Question 4

On a mountain, the temperature decreases by 6.5 °C for every 1000 metres increase in height.
At 2000 metres the temperature is 10 °C.

Find the temperature at 6000 metres. [2]

Write the following numbers correct to one significant figure.

(a) 7682 [1]

(b) 0.07682 [1]

Question 6

Write each number correct to 1 significant figure and estimate the value of the calculation.
You must show your working. [2]

$$2.65 \times 4.1758 + 7.917$$

Question 7

p is the largest prime number between 50 and 100.
q is the smallest prime number between 50 and 100.

Calculate the value of $p - q$. [2]

Write down the next two prime numbers after 43.

[2]

Question 9

Write down the next two prime numbers after 47.

[2]

Question 10

Write the number 1045.2781 correct to

(a) 2 decimal places, [1]

(b) 2 significant figures. [1]

Write down

(a) an irrational number, [1]

(b) a prime number between 60 and 70. [1]

Question 12

Write down the next prime number after 89. [1]

The table gives the average surface temperature (°C) on the following planets.

Planet	Earth	Mercury	Neptune	Pluto	Saturn	Uranus
Average temperature	15	350	−220	−240	−180	−200

(a) Calculate the range of these temperatures.

[1]

(b) Which planet has a temperature 20 °C lower than that of Uranus? [1]

Question 14

Write the number 2381.597 correct to

(a) 3 significant figures, [1]

(b) 2 decimal places, [1]

(c) the nearest hundred. [1]

Question 15

From the list of numbers $\frac{22}{7}$, π, $\sqrt{14}$ $\sqrt{16}$, 27.4, $\frac{65}{13}$ write down

(a) one integer, [1]

(b) one irrational number. [1]

Question 16

The table shows the maximum daily temperatures during one week in Punta Arenas.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
2°C	3°C	1°C	2.5°C	–1.5°C	1°C	2°C

(a) By how many degrees did the maximum temperature change between Thursday and Friday?

[1]

(b) What is the difference between the greatest and the least of these temperatures?

[1]

Numbers & Accuracy
Difficulty: Hard

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Numbers & Accuracy
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **35 minutes**

Score: **/27**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Find the lowest common multiple (LCM) of 20 and 24. [2]

Question 2

Without using your calculator and by rounding each number correct to 1 significant figure, estimate the value of

$$\frac{10.3 \times 19.5}{88.9 - 43.2}.$$

You must show all your working. [2]

Question 3

Write these in order of size, smallest first.

0.6^3 0.22 $\sqrt{0.09}$ 0.4^2 [2]

Question 4

The probability that it will rain on any day is $\frac{1}{5}$.

Calculate an estimate of the number of days it will rain in a month with 30 days.

[1]

Question 5

A lake has an area of 63 800000 000 square metres.

Write this area in square kilometres, correct to 2 significant figures.

[2]

Question 6

210 2 212 213 214 215 216

From the list of numbers, find

(a) a prime number, [1]

(b) a cube number. [1]

Question 7

Which of the following numbers are irrational?

$\frac{2}{3}$ $\sqrt{36}$ $\sqrt{3} + \sqrt{6}$ π 0.75 48% $8^{\frac{1}{3}}$ [2]

Question 8

Write 0.00658

(a) in standard form, [1]

(b) correct to 2 significant figures. [1]

Question 9

$$p = \frac{0.002751 \times 3400}{(9.8923 + 24.7777)^2}.$$

(a) In the spaces provided, write each number in this calculation correct to 1 significant figure. [1]

$$\frac{\text{.....} \times \text{.....}}{(\text{.....} + \text{.....})^2}$$

(b) Use your answer to **part (a)** to **estimate** the value of p. [1]

Question 10

The picture shows the Sky Tower in Auckland.
Alongside the tower is a boat. The boat is 33 metres long.
Use the length of the boat to estimate the height of the Sky Tower.

[2]

Question 11

The area of a small country is 78 133 square kilometres.

(a) Write this area correct to 1 significant figure. [1]

(b) Write your answer to **part (a)** in standard form. [1]

Question 12

The altitude of Death Valley is 086 metres. The altitude of Mount Whitney is 4418 metres.
Calculate the difference between these two altitudes. [1]

Question 13

$\mathscr{E} = \{-2\frac{1}{2},\ -1,\ \sqrt{2},\ 3.5,\ \sqrt{30},\ \sqrt{36}\}$
$X = \{\text{integers}\}$
$Y = \{\text{irrational numbers}\}$
List the members of [1]

(a) X,

(b) Y. [1]

Question 14

Complete this table of squares and cubes.
The numbers are not in sequence. [3]

Number	Square	Cube
3	9	27
.....	121	.....
.....	.....	2744
.....	.....	0343

Sets & Venn Diagrams
Difficulty: Easy
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Sets & Venn Diagrams
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **34 minutes**

Score: **/26**

Percentage: **/100**

Grade Boundaries:

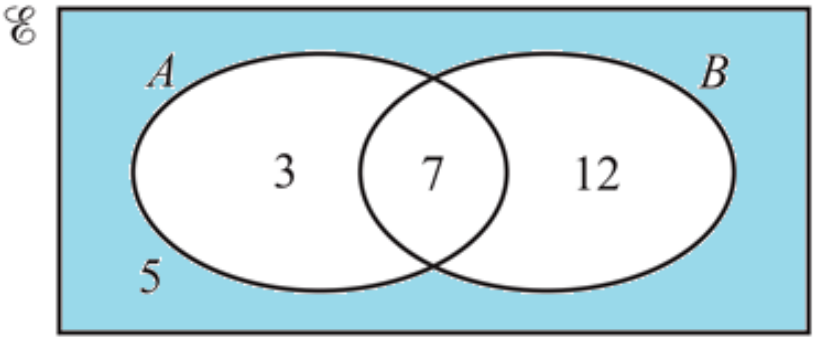
CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1



The Venn diagram shows the numbers of elements in each region.

(a) Find $n(A \cap B')$. [1]

(b) An element is chosen at random.

Find the probability that this element is in set B.

[1]

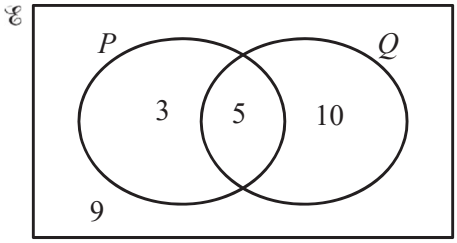
(c) An element is chosen at random from set A.

Find the probability that this element is also a member of set B.

[1]

(d) On the Venn diagram, shade the region $(A \cup B)'$. [1]

Question 2



The Venn diagram shows the number of elements in each set.

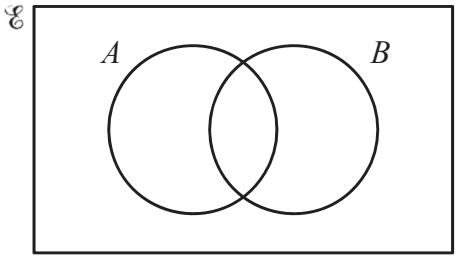
(a) Find $n(P' \cap Q)$. [1]

(b) Complete the statement $n(.....) = 17$. [1]

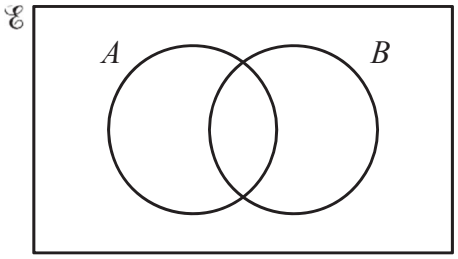
Question 3

[2]

Shade the region required in each Venn diagram.



$(A \cup B)'$



$A' \cap B$

Question 4

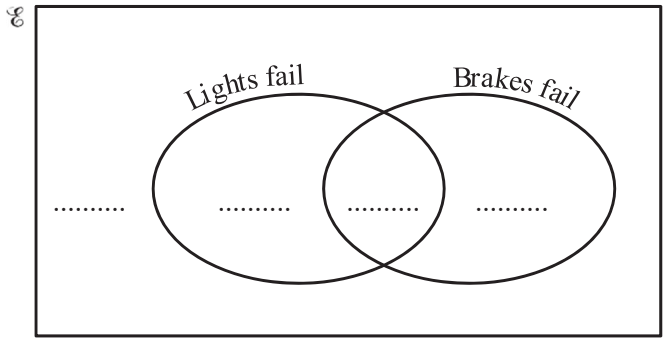
The lights and brakes of 30 bicycles are tested.
The table shows the results.

	Lights	Brakes
Fail test	3	9
Pass test	27	21

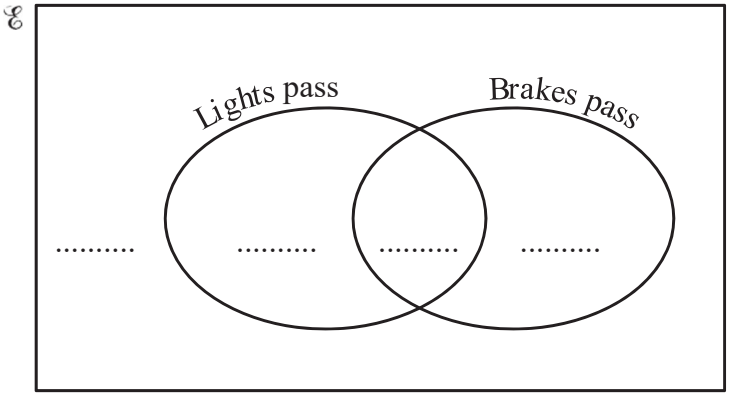
The lights and brakes both failed on one bicycle only.

$\mathscr{E}$ = {30 bicycles}
Complete the Venn diagrams.

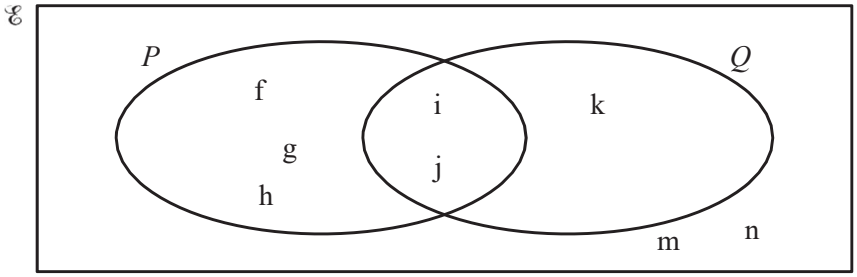
(a) [2]



(b) [2]



Question 5



(a) Use the information in the Venn diagram to complete the following.

(i) $P \cap Q =$ [1]

(ii) $P' \cup Q =$ [1]

(iii) $n(P \cup Q)' =$ [1]

(b) A letter is chosen at random from the set Q.

Find the probability that it is also in the set P.

Find the probability that it is also in the set P. [1]

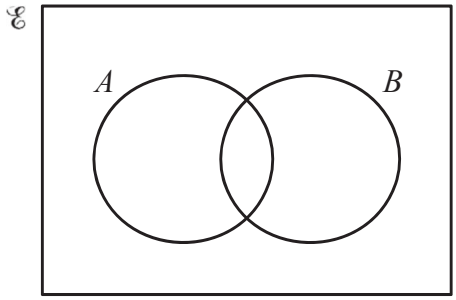
(c) On the Venn diagram shade the region $P' \cap Q$. [1]

(d) Use a set notation symbol to complete the statement.

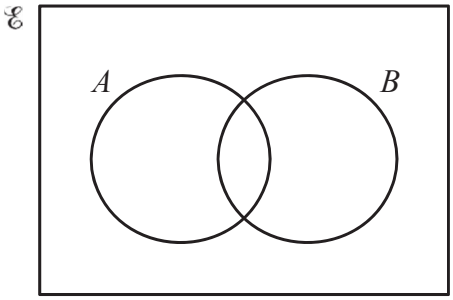
$\{f, g, h\}$ ..... P [1]

Question 6

Shade the required region on each Venn diagram. [2]



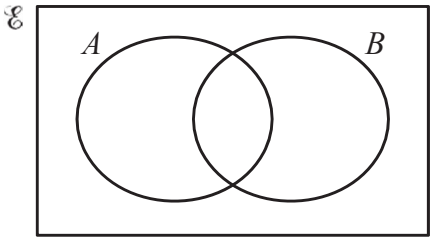
$A' \cup B$



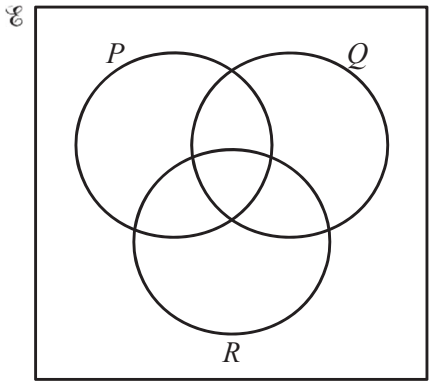
$A' \cap B'$

Question 7

Shade the required region in each of the Venn diagrams.



A'

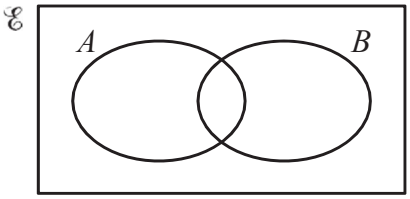


$(P \cap R) \cup Q$

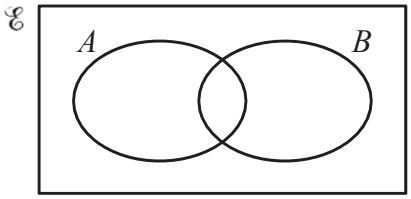
[2]

Question 8

Shade the required region on each Venn diagram. [2]



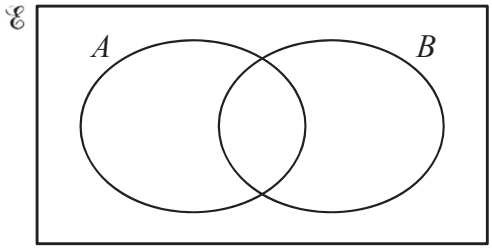
$A \cup B'$



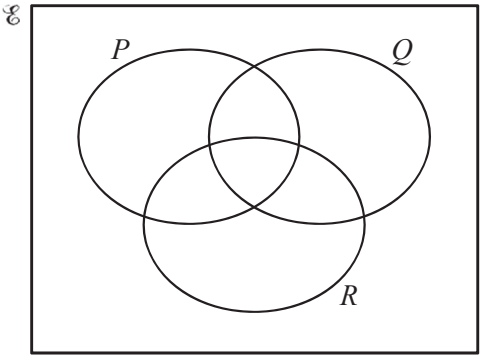
$(A \cap B)'$

Question 9

Shade the required region on each Venn diagram.



$A \cap B'$



$(P \cup Q) \cap R'$

[2]

Sets & Venn Diagrams
Difficulty: Easy

Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Sets & Venn Diagrams
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 2

Time allowed: **30 minutes**

Score: **/23**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

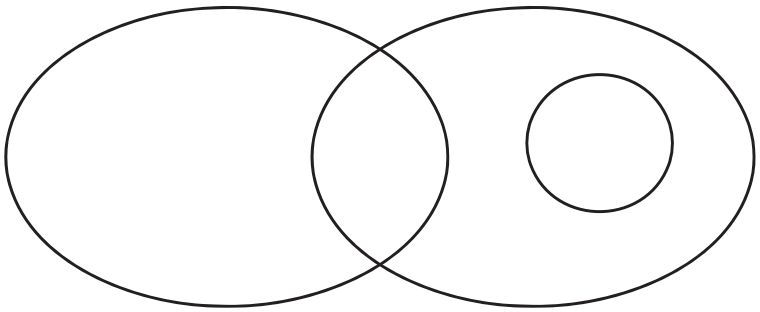
CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

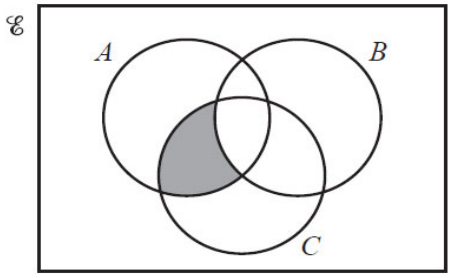
$Q = \{2, 4, 6, 8, 10\}$ and $R = \{5, 10, 15, 20\}$.
$15 \in P$, $n(P) = 1$ and $P \cap Q = \emptyset$.

Label each set and complete the Venn diagram to show this information.



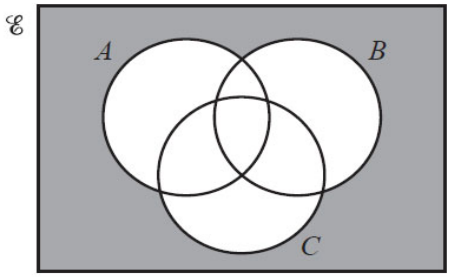
[3]

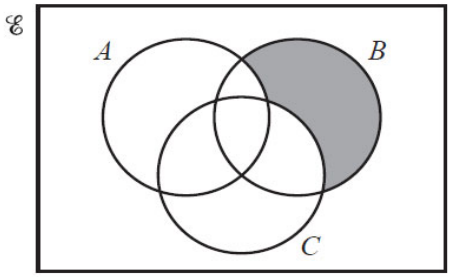
Question 2



The shaded area in the diagram shows the set $(A \cap C) \cap B'$. [2]

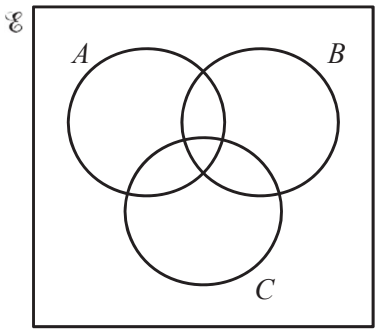
Write down the set shown by the shaded area in each diagram below.



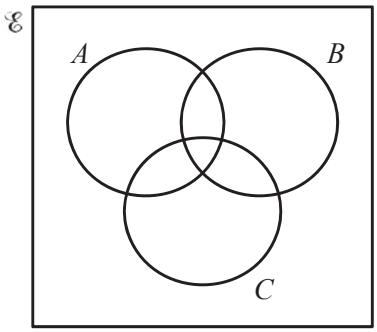


Question 3

Shade the required regions in the Venn diagrams below.



$(A \cup B)' \cap C$

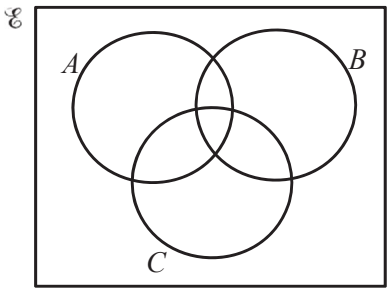


$(A \cap B) \cup C$

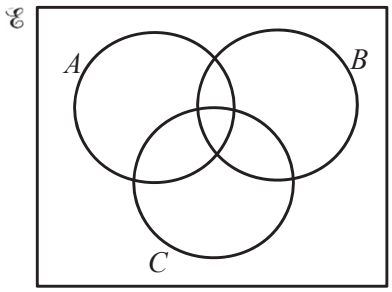
[2]

Question 4

Shade the region required in each Venn Diagram.



$A' \cap (B \cap C)$



$A' \cap (B \cup C)$

[2]

Question 5

$\mathscr{E} = \{1,2,3,4,5,6,7,9,11,16\}$ $P = \{2,3,5,7,11\}$ $S = \{1,4,9,16\}$ $M = \{3,6,9\}$

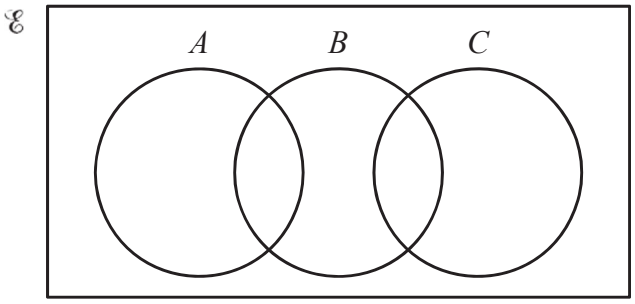
(a) Draw a Venn diagram to show this information. [2]

(b) Write down the value of $n(M' \cap P)$. [1]

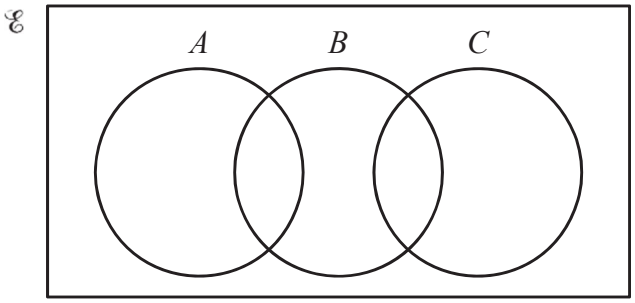
Question 6

On the Venn diagrams shade the regions

(a) $A' \cap C'$, [1]

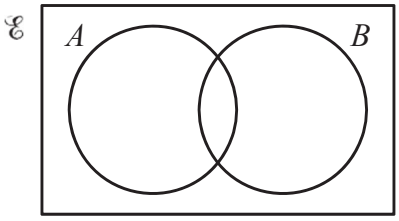


(b) $(A \cup C) \cap B$. [1]



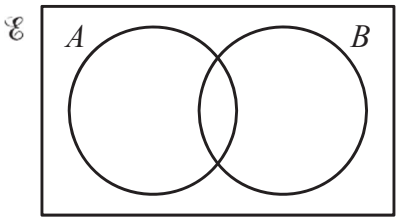
Question 7

(a) Shade the region $A \cap B$.



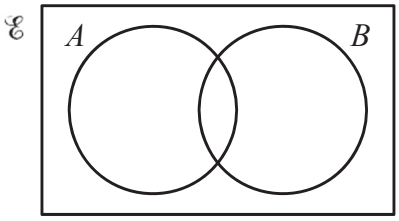
[1]

(b) Shade the region $(A \cup B)'$.



[1]

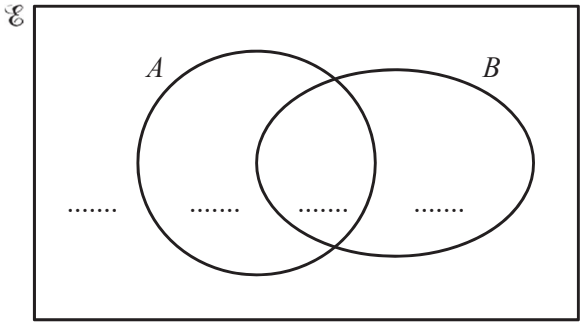
(c) Shade the complement of set B.



[1]

Question 8

$n(\mathscr{E}) = 21$, $n(A \cup B) = 19$, $n(A \cap B') = 8$ and $n(A) = 12$.
Complete the Venn diagram to show this information.

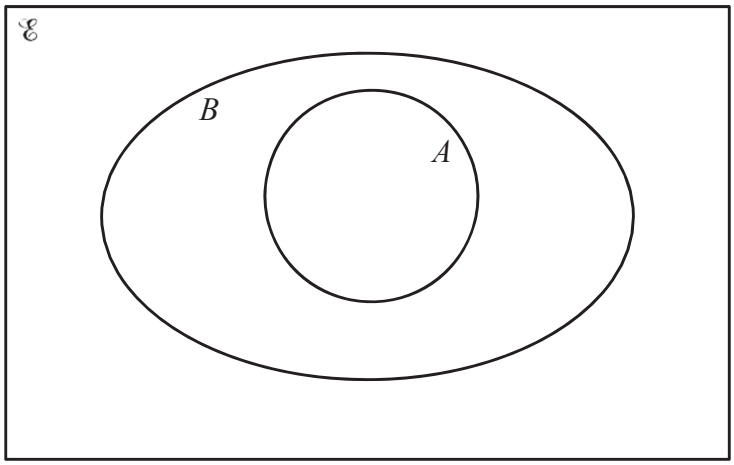


[3]

Question 9

$\mathscr{E} = \{40, 41, 42, 43, 44, 45, 46, 47, 48, 49\}$
$A = \{\text{prime numbers}\}$
$B = \{\text{odd numbers}\}$

(a) Place the 10 numbers in the correct places on the Venn diagram. [2]



(b) State the value of $n(B \cap A')$. [1]

Sets & Venn Diagrams: Medium

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Sets & Venn Diagrams
Paper	Paper 2
Difficulty	Medium
Booklet	Question Paper 1

Time allowed: **32 minutes**

Score: **/25**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

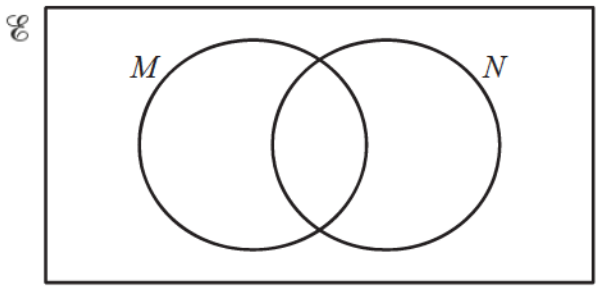
(a) $Q = \{1, 2, 3, 4, 5, 6\}$

Write down a set P where $P \subset Q$.

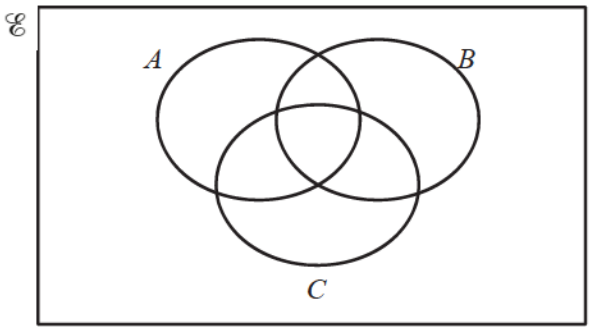
[1]

(b) Shade these regions in the Venn diagrams.

$M \cup N'$

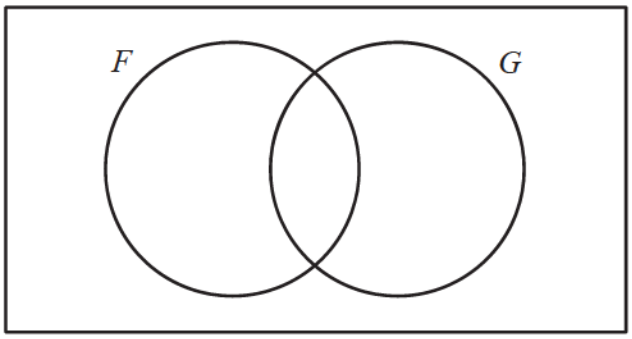


$(A \cup B) \cap C'$



[2]

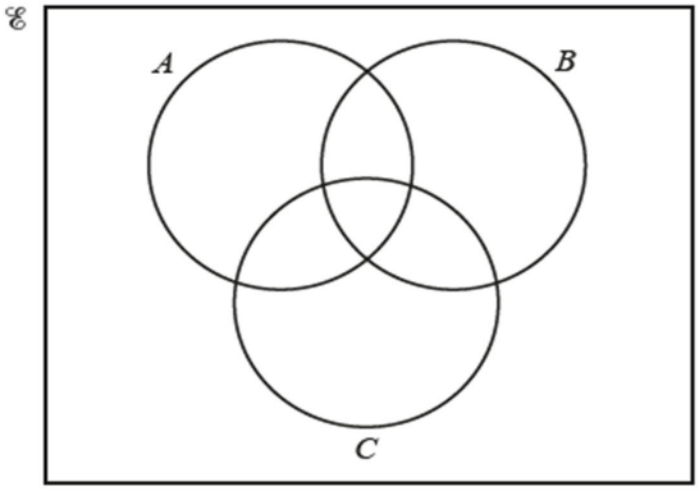
(a) In this Venn diagram, shade the region $F \cup G'$.



[1]

(b) $\mathscr{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$
$A = \{x: x \text{ is an odd number}\}$
$B = \{x: x \text{ is a square number}\}$
$C = \{x: x \text{ is a multiple of 3}\}$

(i) Write all the elements of $\mathscr{E}$ in the Venn diagram below. [2]



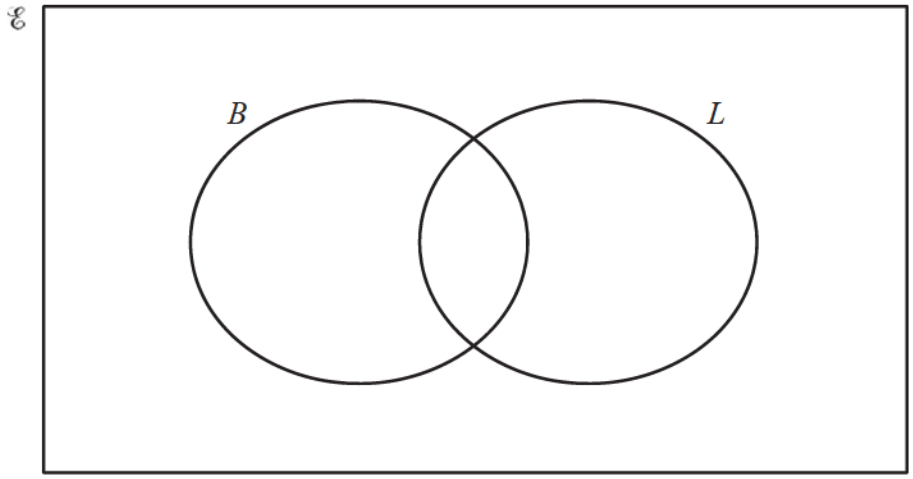
(ii) Another number is included in the set $\mathscr{E}$.
This number is in the region $A' \cap B \cap C$. [1]

Write down a possible value for this number.

Question 3

(a) A total of 20 trucks were tested at a checkpoint.

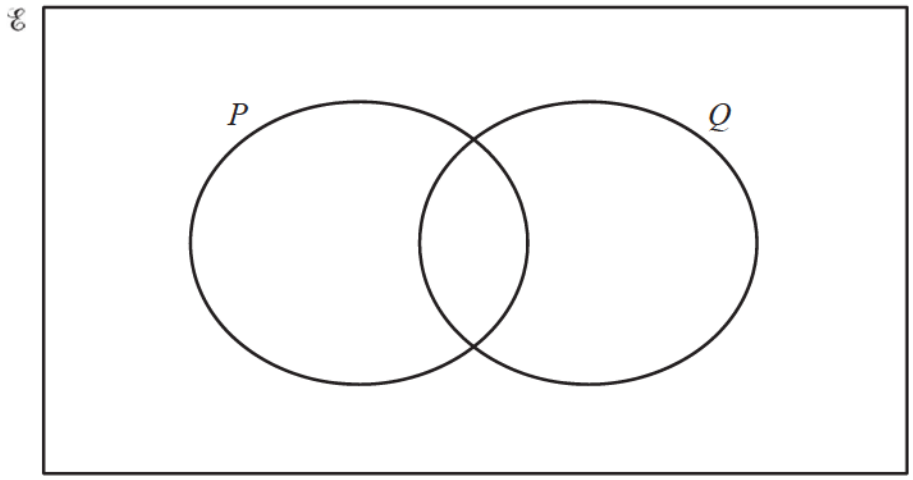
- 6 trucks failed the test for brakes (B)
- 7 trucks failed the test for lights (L)
- 9 trucks passed the tests for both brakes and lights.



(i) Complete the Venn diagram. [2]

(ii) Find $n(B' \cap L')$. [1]

(b) In the Venn diagram below, shade the region $(P \cup Q) \cap Q'$.



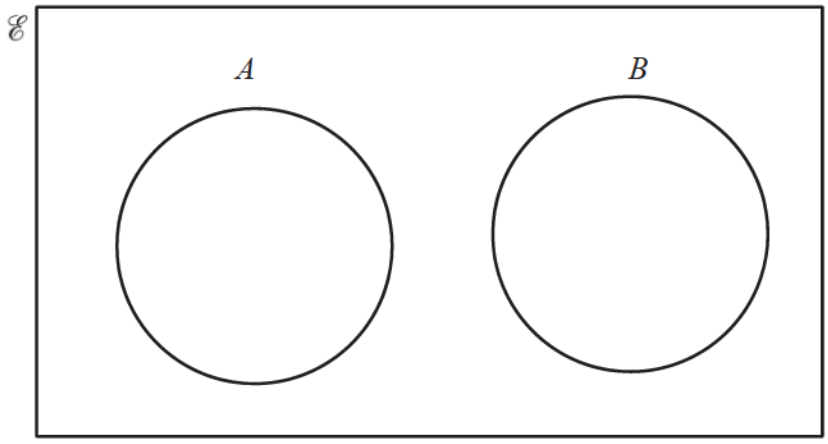
[1]

Question 4

(a) $\mathscr{E} = \left\{7,\ 9.3,\ \pi,\ \frac{5}{9},\ 2\sqrt{8}\right\}$

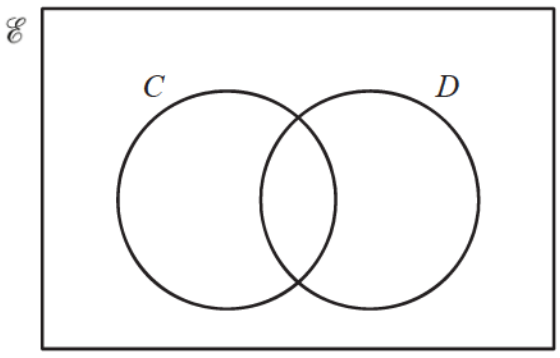
A = {integers}
B = {irrational numbers}

Write all the elements of $\mathscr{E}$ in their correct place on the Venn diagram.

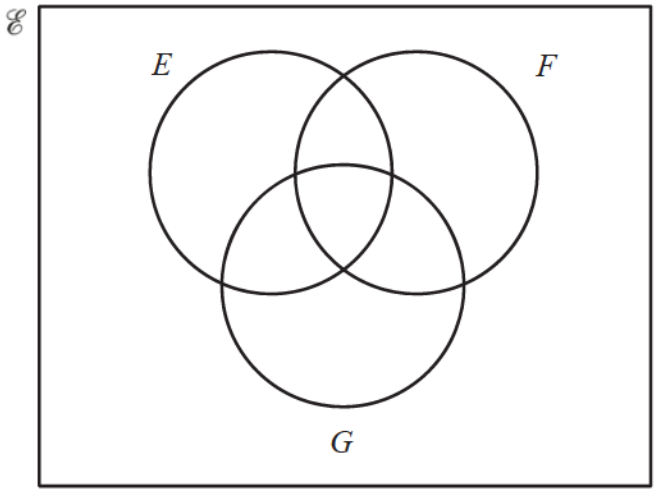


[2]

(b) Shade the region in each of the Venn diagrams below.



$C' \cup D$



$E \cap F' \cap G$

[2]

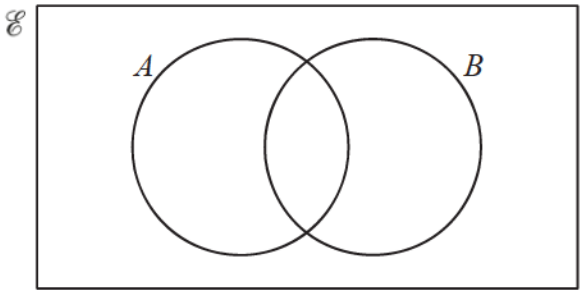
Question 5

(a) $\mathscr{E} = \{x: 2 \leqslant x \leqslant 16, x \text{ is an integer}\}$
$M = \{\text{even numbers}\}$
$P = \{\text{prime numbers}\}$

(i) Find n(M). [1]

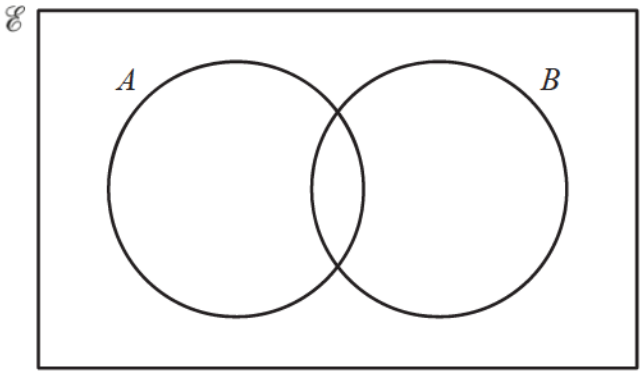
(ii) Write down the set $(P \cup M)'$. [1]

(b) On the Venn diagram, shade $A \cap B'$.



[1]

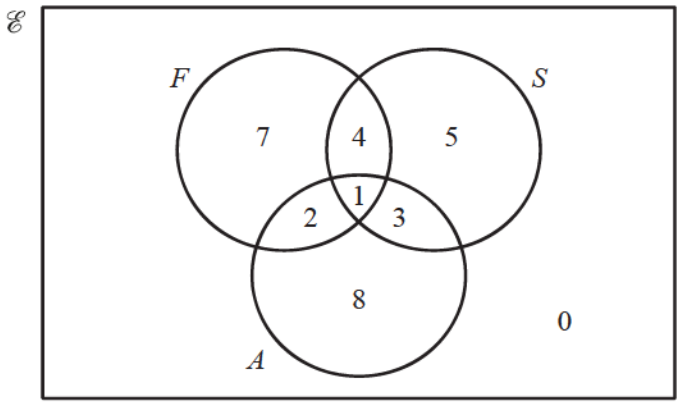
Question 6



In the Venn diagram shade the region $A \cup B'$. [1]

Question 7

The Venn diagram shows the number of students who study French (F), Spanish (S) and Arabic (A).



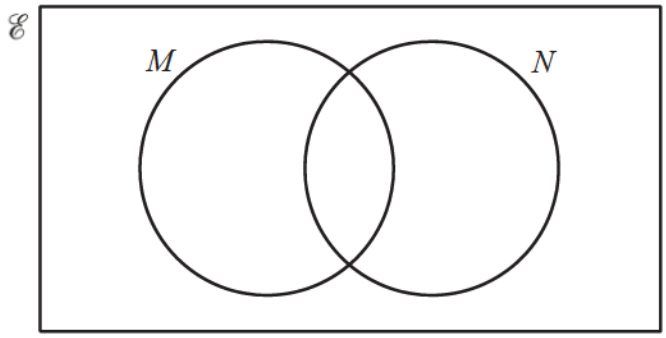
(a) Find n $(A \cup (F \cap S))$.

[1]

(b) On the Venn diagram, shade the region $F' \cap S$. [1]

(a) You may use this Venn diagram to help you answer **part (a)**.

$\mathscr{E} = \{x : 1 \leqslant x \leqslant 12, x \text{ is an integer}\}$
$M = \{\text{odd numbers}\}$
$N = \{\text{multiples of 3}\}$



(i) Find n(N).

[1]

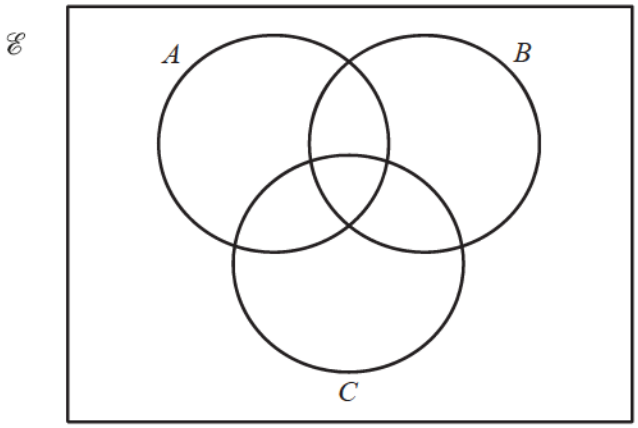
(ii) Write down the set $M \cap N$.

[1]

(iii) Write down a set P where $P \subset M$.

[1]

(b) Shade $(A \cup C) \cap B'$ in the Venn diagram below.



[1]

Sets & Venn Diagrams
Difficulty: Hard
Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Sets & Venn Diagrams
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 2

Time allowed: **45 minutes**

Score: **/35**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

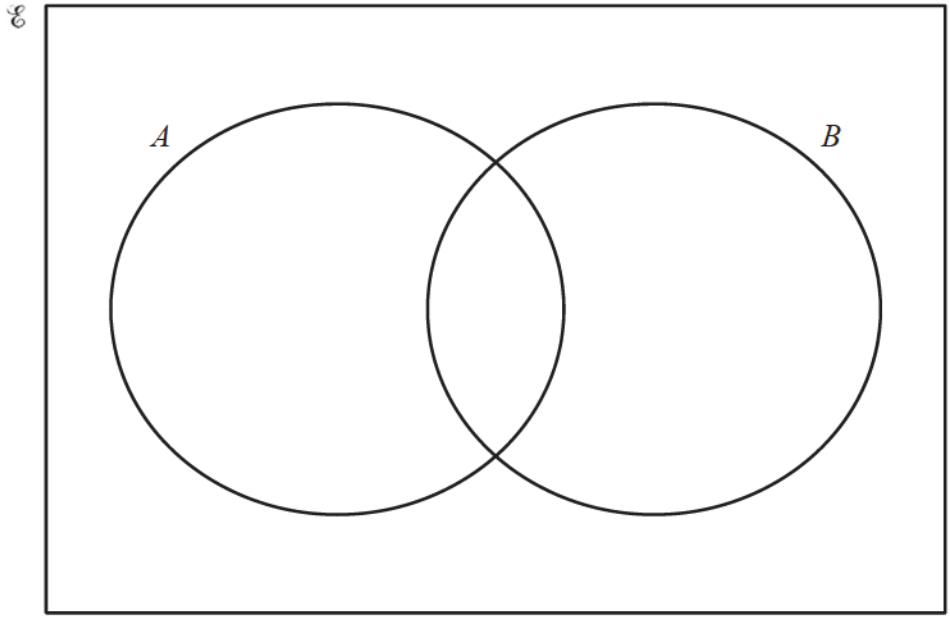
Question 1

$\mathscr{E} = \{x : 1 \leqslant x \leqslant 10, \text{ where } x \text{ is an integer}\}$

$A = \{\text{square numbers}\}$

$B = \{1, 2, 3, 4, 5, 6\}$

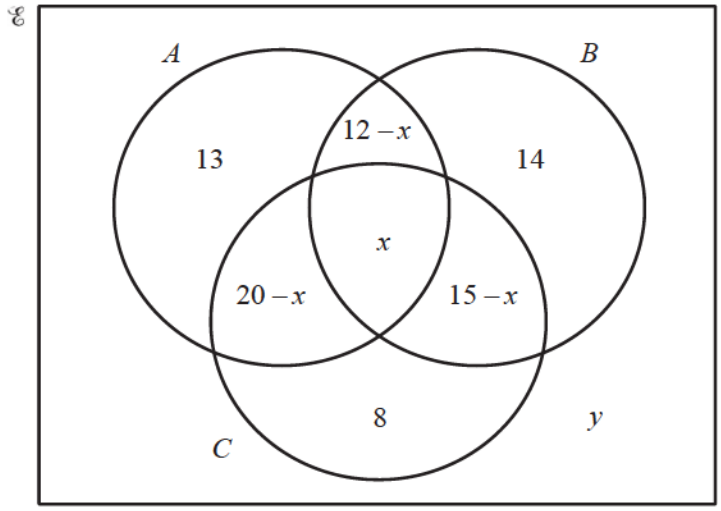
(a) Write all the elements of $\mathscr{E}$ in their correct place in the Venn diagram. [2]



(b) List the elements of $(A \cup B)'$. [1]

(c) Find $n(A \cap B')$. [1]

Question 2



The Venn diagram shows the number of elements in sets A, B and C.

(a) $n(A \cup B \cup C) = 74$

Find x. [2]

(b) $n(\mathscr{E}) = 100$

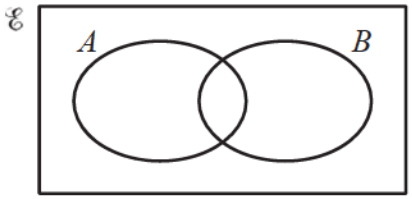
Find y. [1]

(c) Find the value of $n((A \cup B)' \cap C)$.

[1]

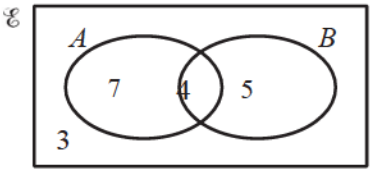
Question 3

(a)



Shade the region A ∩ B′. [1]

(b)



This Venn diagram shows the number of elements in each region.

Write down the value of n $(A \cup B')$. [1]

Question 4

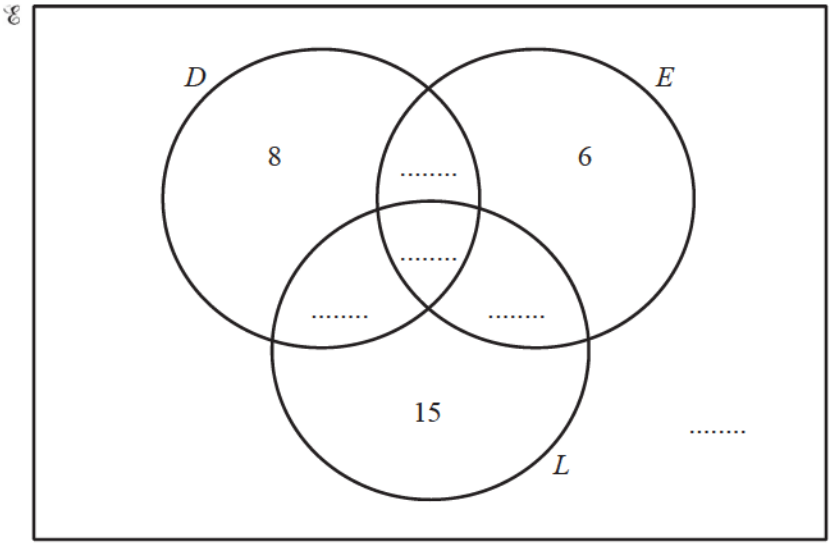
In a survey of 60 cars, 25 use diesel, 20 use liquid hydrogen and 22 use electricity.

No cars use all three fuels and 14 cars use both diesel and electricity.

There are 8 cars which use diesel only, 15 cars which use liquid hydrogen only and 6 cars which use electricity only.

In the Venn diagram below

$\mathscr{E}$ = {cars in the survey},
D = {cars which use diesel},
L = {cars which use liquid hydrogen},
E = {cars which use electricity}.



(a) Use the information above to fill in the five missing numbers in the Venn diagram. [4]

(b) Find the number of cars which use diesel but not electricity.

[1]

(c) Find n($D' \cap (E \cup L)$).

[1]

Question 5

In a group of 30 students, 18 have visited Australia, 15 have visited Botswana and 5 have not visited either country.

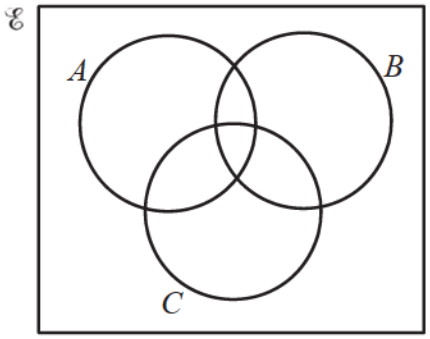
Work out the number of students who have visited Australia but not Botswana. [2]

Question 6

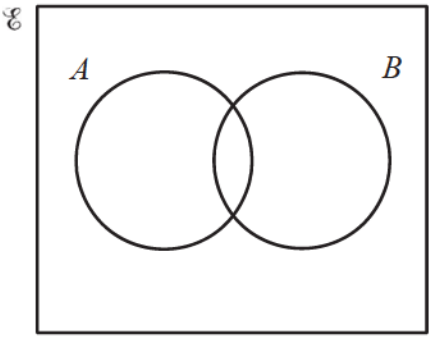
In a group of 24 students, 21 like football and 15 like swimming.
One student does **not** like football and does **not** like swimming.
Find the number of students who like **both** football and swimming. [2]

Question 7

Shade the region required in each Venn Diagram.



$A \cap B \cap C$



$A \cup B'$

[2]

Question 8

A and B are sets.
Write the following sets in their simplest form.

(a) $A \cap A'$. [1]

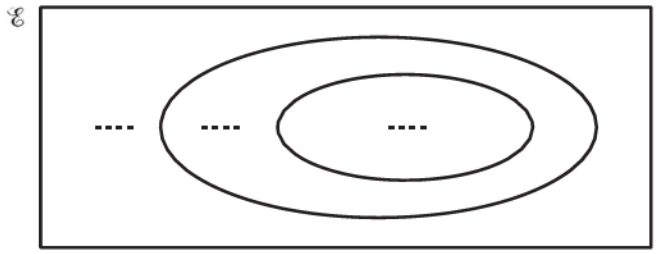
(b) $A \cup A'$. [1]

(c) $(A \cap B) \cup (A \cap B')$. [1]

Question 9

$n(A) = 18$, $n(B) = 11$ and $n(A \cup B)' = 0$.

(a) Label the Venn diagram to show the sets A and B where $n(A \cup B) = 18$.
Write down the number of elements in each region.



[2]

(b) Draw another Venn diagram to show the sets A and B where $n(A \cup B) = 29$.
Write down the number of elements in each region.

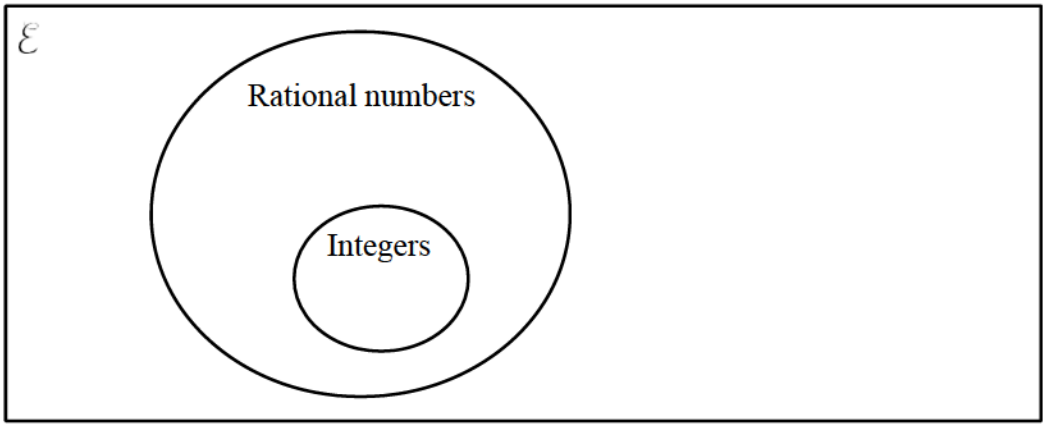
[2]

Question 10

Write each of these four numbers in the correct place in the Venn Diagram below.

$$2.6, \quad \frac{4}{17}, \quad \sqrt{12}, \quad \sqrt{\frac{112}{7}}$$

[4]



Question 11

Three sets A, B and K are such that $A \subset K$, $B \subset K$ and $A \cap B = \emptyset$.
Draw a Venn diagram to show this information.

[2]

Conversion
Difficulty: Easy
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Conversion
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **22 minutes**

Score: **/17**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Write the recurring decimal $0.48\dot{\dot{}}$ as a fraction.
Show all your working. [2]

Question 2

Change 6200 cm^2 into m^2. [1]

Question 3

Write the recurring decimal $0.\dot{2}$ as a fraction.
[$0.\dot{2}$ means 0.222…] [2]

Question 4

Write the recurring decimal $0.\dot{3}\dot{6}$ as a fraction.
Give your answer in its simplest form.
[$0.\dot{3}\dot{6}$ means $0.3666\ldots$]

[3]

Question 5

Write the recurring decimal $0.32\dot{}$ as a fraction.
[$0.32\dot{}$ means $0.3222\ldots$]

[2]

Question 6

Write the recurring decimal $0.\dot{4}$ as a fraction.
[$0.\dot{4}$ means $0.444\ldots$]

[2]

Question 7

Write the recurring decimal $0.1\dot{5}$ as a fraction.
[$0.1\dot{5}$ means 0.1555...] [2]

Question 8

Jason receives some money for his birthday.
He spends $\frac{11}{15}$ of the money and has \$14.40 left.

Calculate how much money he received for his birthday. [3]

Conversion
Difficulty: Easy
Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Conversion
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 2

Time allowed: **23 minutes**

Score: **/18**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Write the recurring decimal $0.2\dot{5}$ as a fraction.
[$0.2\dot{5}$ means 0.2555...] [2]

Question 2

At the beginning of July, Kim had a mass of 63 kg.
At the end of July, his mass was 61 kg. [3]

Calculate the percentage loss in Kim's mass.

Question 3

Work out 72 cents as a percentage of 83 cents. [1]

Question 4

Write

(a) 60 square metres in square centimetres, [1]

(b) 22 metres per second in kilometres per hour. [2]

Question 5

A cruise ship travels at 22 knots.

[1 knot is 1.852 kilometres per hour.]

Convert this speed into metres per second. [3]

Question 6

The maximum speed of a car is 252 km/h. [2]

Change this speed into metres per second.

Question 7

Lin scored 18 marks in a test and Jon scored 12 marks.
Calculate Lin's mark as a percentage of Jon's mark. [2]

Question 8

Calculate

$$\frac{5^2}{2^5}$$

(a) giving your answer as a fraction, [1]

(b) giving your answer as a decimal. [1]

Conversion
Difficulty: Hard

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Conversion
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **27 minutes**

Score: **/21**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Write the recurring decimal $0.\dot{6}\dot{3}$ as a fraction in its lowest terms.
You must show all your working. [3]

Question 2

Write the recurring decimal $0.1\dot{7}$ as a fraction.
Show all your working. [2]

Question 3

(a) Write \$0.70 as a fraction of \$5.60, giving your answer in its lowest terms. [1]

(b) Write the recurring decimal $0.\dot{1}\dot{8}$ as a fraction in its lowest terms.
[$0.\dot{1}\dot{8}$ means 0.181818…] [2]

Question 4

$$\frac{3}{5} < p < \frac{2}{3}$$

Which of the following could be a value of p? [2]

$\frac{16}{27}$ $\quad$ 0.67 $\quad$ 60% $\quad$ $(0.8)^2$ $\quad$ $\sqrt{\frac{4}{9}}$

Question 5

A tin of soup has the following information on the label.

200 grams of soup contains		
Protein	Carbohydrate	Fat
4 g	8.7 g	5.8 g

(a) What fraction of the soup is Protein? Give your answer in its simplest form. [1]

(b) What percentage of the soup is Carbohydrate? [1]

Question 6

Sima drinks 2.5 litres of water each day.
A full glass holds 125 millilitres of water.
How many full glasses of water does Sima drink each day? [2]

Question 7

The population of Europe is 580 000 000 people.
The land area of Europe is 5 900 000 square kilometres.

(a) Write 580 000 000 in standard form. [1]

(b) Calculate the number of people per square kilometre, to the nearest whole number. [2]

(c) Calculate the number of square **metres** per person. [2]

Question 8

The top speed of a car is 54 metres per second.
Change this speed into kilometres per hour. [2]

Order by Size
Difficulty: Easy
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Order by Size
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **39 minutes**

Score: **/30**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Write the following in order of size, smallest first.

π 3.14 $\frac{22}{7}$ 3.142 3 [2]

Question 2

Write the following in order of size, smallest first.

0.34 0.6 0.6^2 0.7^3 [2]

Question 3

Write the following in order of size, smallest first.

0.5^2 0.5 0.5^3 $\sqrt[3]{0.5}$ [2]

Question 4

Write the following in order, smallest first.

$\sqrt{0.1}$ $\quad \frac{43}{201}$ $\quad 2\frac{1}{2}\%$ $\quad 0.$ [2]

Question 5

Write the following in order of size, largest first.

sin 158° cos 158° cos 38° sin 38° [2]

Question 6

Write the following in order of size, **smallest** first.

$\sqrt{0.9}$ $\quad \sqrt[3]{0.9}$ $\quad 0.9^2$ $\quad 0.9^3$ [2]

Question 7

Write the following in order of size, **smallest** first.

$\frac{20}{41}$ $\frac{80}{161}$ 0.492 4.93%

[2]

Question 8

Write the numbers in order of size with the **smallest** first.

$\sqrt{10}$ 3.14 $\frac{22}{7}$ π

[2]

Question 9

Write the following in order of size, smallest first.

$\sqrt{\frac{9}{17}}$ $\frac{5}{7}$ 72% $\left(\frac{4}{3}\right)^{-1}$

[2]

Question 10

Write the following in order of size, smallest first.

$\frac{399}{401}$ $\frac{698}{701}$ $\frac{598}{601}$ [2]

Question 11

Write the following in order of size, **smallest** first.

$\cos 100°$ $\sin 100°$ $\tan 100°$ [2]

Question 12

$(0.8)^{\frac{1}{2}}$, 0.8, $\sqrt{0.8}$, $(0.8)^{-1}$, $(0.8)^2$.

From the numbers above, write down

(a) the smallest, [1]

(b) the largest. [1]

Question 13

Write the numbers 0.5^2, $\sqrt{0.5}$, 0.5^3 in order with the **smallest** first. [2]

Question 14

Write in order of size, smallest first,

$$\frac{5}{98}, \quad 0.049, \quad 5\%.$$

[2]

Question 15

Write the four values in order, smallest first.

$$\frac{1}{1000}, \quad \frac{11}{1000}, \quad 0.11\%, \quad 0.0108.$$

[2]

Order by Size
Difficulty: Hard
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Order by Size
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **26 minutes**

Score: **/20**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Write the following in order of size, smallest first. [2]

19% $\frac{1}{5}$ $\sqrt{0.038}$ $\sin 11.4°$ 0.719^5

Question 2

Write the following in order of size, smallest first. [2]

$\cos 100°$ $\tan 100°$ $\frac{1}{100}$ $100^{-0.1}$

Question 3

Write the following in order of size, **smallest** first. [2]

$(1.5)^{\frac{2}{3}}$ $\left(\frac{2}{3}\right)^{1.5}$ $\left(\frac{2}{3}\right)^{-1.5}$ $\left(-\frac{2}{3}\right)^{\frac{2}{3}}$

Question 4

Write the following in order of size, **smallest** first.

$0.47 \qquad \frac{8}{17} \qquad \sqrt{0.22} \qquad \tan 25°$ [2]

Question 5

For this question, $1 < x < 2$.

Write the following in order of size**, smallest first**. [2]

$\frac{5}{x} \qquad 5x \qquad \frac{x}{5} \qquad x - 5$

Question 6

Write the following in order of size, **smallest** first. [2]

$\frac{2}{\sqrt{3}} \qquad 2 - \sqrt{3} \qquad \sqrt{3} \qquad 2 - \frac{\sqrt{3}}{2}$

Question 7

When $0 < x < 0.9$, write the following in order of size with the smallest first. [2]

$\cos x°$ $\quad$ x^2 $\quad$ x^{-1}

Question 8

0.0008 $\quad$ 8×10^{-5} $\quad$ 0.8% $\quad$ $\frac{1}{125\,000}$

[2]

Write the numbers above in order, smallest first.

Question 9

Write the following in order of size, smallest first. [2]

$\frac{\pi}{4}$ $\quad$ $\frac{1}{\sqrt{2}}$ $\quad$ $\frac{3}{4}$ $\quad$ $\sin 47°$

Question 10

Rearrange the quantities in order with the smallest first.

[2]

$\frac{1}{8}\%$, $\frac{3}{2500}$, 0.00126

Standard form
Difficulty: Easy
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Standard form
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **30 minutes**

Score: **/23**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Write 5.17 × 10^{-3} as an ordinary number. [1]

Question 2

Work out, giving your answer in standard form. [2]

$$1.2 \times 10^{40} + 1.2 \times 10^{41}$$

Question 3

(a) Write 14 835 correct to the nearest thousand. [1]

(b) Write your answer to **part (a)** in standard form. [1]

Question 4

Write in standard form.

(a) 2 470 000

[1]

(b) 0.0079

[1]

Question 5

Write 1.27×10^{-3} as an ordinary number.

[1]

Question 6

Write 0.000 057 4 in standard form.

[1]

Question 7

Write 1.7×10^{-4} as an ordinary number.

[1]

Question 8

Write 270000 in standard form.

[1]

Question 9

Write 53400000 in standard form.

[1]

Question 10

(a) Write 2.8×10^2 as an ordinary number. [1]

(b) Work out $2.5 \times 10^8 \times 2 \times 10^{-2}$.
Give your answer in standard form. [2]

Question 11

Work out $4 \times 10^{-5} \times 6 \times 10^{12}$.
Give your answer in standard form. [2]

Question 12

$p = 4 \times 10^5$ $q = 5 \times 10^4$

Find, giving your answer in standard form,

(a) pq, [2]

(b) $\frac{q}{p}$. [2]

Question 13

The price of a ticket for a football match is \$124 . [1]

(a) Calculate the amount received when 76 500 tickets are sold.

(b) Write your answer to **part (a)** in standard form. [1]

Standard Form
Difficulty: Easy
Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Standard Form
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 2

Time allowed: **32 minutes**

Score: **/25**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

A hummingbird beats its wings 24 times per second.

(a) Calculate the number of times the hummingbird beats its wings in one hour. [1]

(b) Write your answer to part (a) in standard form. [1]

Question 2

(a) Write 16 460 000 in standard form. [1]

(b) Calculate $7.85 \div (2.366 \times 10^{2})$, giving your answer in standard form. [2]

Question 3

Work out $\dfrac{240^2}{5\times10^6}$.

Give your answer in standard form. [2]

Question 4

Calculate the value of $5(6\times 10^3 + 400)$, giving your answer in standard form. [2]

Question 5

Change 64 square metres into square millimetres.
Give your answer in standard form. [2]

Question 6

$\sqrt{23}$ 48% 4.80 $\frac{53}{11}$ [2]

Write the numbers in order of size with the **largest** first.

Question 7

1 second = 10^6 microseconds.

Change 3×10^{13} microseconds into minutes. Give your answer in standard form. [2]

Question 8

A light on a computer comes on for 26 700 microseconds.

One microsecond is 10^{-6} seconds.

Work out the length of time, in seconds, that the light is on

(a) in standard form, [1]

(b) as a decimal. [1]

Question 9

Use the formula

$$P = \frac{V^2}{R}$$

to calculate the value of P when $V = 6 \times 10^6$ and $R = 7.2 \times 10^8$. [2]

Question 10

The planet Neptune is 4496000 000 kilometres from the Sun.
Write this distance in standard form. [1]

Question 11

The mass of the Earth is $\frac{1}{95}$ of the mass of the planet Saturn. [3]

The mass of the Earth is 5.97×10^{24} kilograms.
Calculate the mass of the planet Saturn, giving your answer in standard form, correct to 2 significant figures.

Question 12

A block of cheese, of mass 8 kilograms, is cut by a machine into 500 equal slices.

(a) Calculate the mass of one slice of cheese in kilograms.

[1]

(b) Write your answer to **part (a)** in standard form.

[1]

Standard Form
Difficulty: Hard
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Standard Form
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **27 minutes**

Score: **/21**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

(a) Write 0.0605 in standard form. [1]

(b) Calculate $0.1 \times 5.1 \times 10^4$, giving your answer in standard form. [1]

Question 2

Write the answer to the following calculations in standard form.

(a) $600 \div 8000$ [2]

(b) $10^8 - 7 \times 10^6$ [2]

Question 3

Calculate $(4.3 \times 10^8) + (2.5 \times 10^7)$.

Give your answer in standard form. [2]

Question 4

Calculate, giving your answers in standard form,

(a) $2 \times (5.5 \times 10^4)$, [2]

(b) $(5.5 \times 10^4) - (5 \times 10^4)$. [2]

Question 5

Work out $2(3 \times 10^{8} - 4 \times 10^{6})$, giving your answer in standard form. [2]

Question 6

Solve the equation $4x + 6 \times 10^{3} = 8 \times 10^{4}$.

Give your answer in standard form. [3]

Question 7

(a) There are 10^9 nanoseconds in 1 second.
Find the number of nanoseconds in 5 minutes, giving your answer in standard form.

[2]

(b) Solve the equation $5(x + 3\times10^6) = 4\times10^7$.

[2]

Working with Fractions Difficulty: Easy

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Working with Fractions
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **43 minutes**

Score: **/33**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Without using a calculator, work out $\frac{5}{6} - \frac{1}{2}$

.

Show all the steps of your working and give your answer as a fraction in its simplest form. [2]

Question 2

Work out $\frac{2}{3} - \frac{1}{4}$, giving your answer as a fraction in its lowest terms.

Do not use a calculator and show all the steps of your working. [2]

Question 3

Without using your calculator, work out $\frac{3}{4} + \frac{2}{3} - \frac{1}{8}$.

You must show all your working and give your answer as a mixed number in its simplest form. [4]

Question 4

Without using a calculator, work out $\frac{3}{5} + \frac{1}{6}$.

[2]

Write down all the steps of your working and give your answer as a fraction in its simplest form.

Question 5

Without using a calculator, work out $2\frac{5}{8} \times \frac{3}{7}$.

Show all your working and give your answer as a mixed number in its lowest terms. [3]

Question 6

Without using a calculator, work out $\frac{1}{12} \times 1\frac{1}{5}$.

Show all your working and give your answer as a fraction in its lowest terms. [2]

Question 7

Without using your calculator, work out $1\frac{7}{12} + \frac{13}{20}$.

You must show all your working and give your answer as a mixed number in its simplest form. [3]

Question 8

Without using your calculator, work out $2\frac{1}{4} - \frac{11}{12}$.

You must show all your working and give your answer as a fraction in its lowest terms. [3]

Question 9

Calculate $\frac{2.07 - 1.89}{5.71 - 3.92}$. [1]

Question 10

Write the following as single fractions.

(a) $x + \frac{x}{2}$ [1]

(b) $x + \frac{2}{x}$ [1]

Question 11

Work out $\frac{2}{3} + \frac{1}{6} - \frac{1}{4}$, giving your answer as a fraction in its lowest terms.

[3]

Do not use a calculator and show all the steps of your working.

Question 12

Without using a calculator, work out $1\frac{4}{5} \div \frac{3}{7}$.

[3]

Show all your working and give your answer as a fraction in its lowest terms.

Question 13

Without using a calculator, work out $\frac{4}{5} \div 2\frac{2}{3}$

Write down all the steps of your working and give your answer as a fraction in its simplest form.

[3]

Working with Fractions Difficulty: Easy

Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Working with Fractions
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 2

Time allowed: **46 minutes**

Score: **/36**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Without using a calculator, work out $1\frac{7}{8} \div \frac{5}{9}$.

Show all your working and give your answer as a fraction in its lowest terms.

[3]

Question 2

Without using your calculator, work out $2\frac{7}{9} \div \frac{5}{6}$.

[4]

Give your answer as a fraction in its lowest terms.
You must show each step of your working.

Question 3

Without using a calculator, work out $\frac{1}{4}+\frac{1}{6}$.

Write down all the steps in your working and give your answer as a fraction in its simplest form. [2]

Question 4

Without using a calculator, work out $1\frac{1}{6}\div\frac{7}{8}$. [3]

Show all your working and give your answer as a fraction in its lowest terms.

Question 5

Without using your calculator, work out $\frac{5}{6} - \left(\frac{1}{2} \times 1\frac{1}{2}\right)$.

Write down all the steps of your working.

[3]

Question 6

Without using a calculator, work out $1\frac{1}{4} - \frac{7}{9}$.

[3]

Write down all the steps in your working.

Question 7

Do not use a calculator in this question and show all the steps of your working.

Give each answer as a fraction in its lowest terms.

Work out.

(a) $\frac{3}{4} - \frac{1}{12}$ [2]

(b) $2\frac{1}{2} \times \frac{4}{25}$ [2]

Question 8

Show that $1\frac{1}{2} \div \frac{3}{16} = 8$.

Do not use a calculator and show all the steps of your working. [2]

Question 9

Without using a calculator, work out $\frac{6}{7} \div 1\frac{2}{3}$.

Write down all the steps in your working. [3]

Question 10

Write down all your working to show that the following statement is correct. [2]

$$\frac{1+\frac{8}{9}}{2+\frac{1}{2}} = \frac{34}{45}$$

Question 11

Show that $\left(\frac{1}{10}\right)^2 + \left(\frac{2}{5}\right)^2 = 0.17.$

[2]

Write down all the steps in your working.

Question 12

Without using your calculator, work out $1\frac{5}{6} + \frac{9}{10}$.

You must show your working and give your answer as a mixed number in its simplest form. [3]

Question 13

$$1\frac{1}{2} + \frac{1}{3} + \frac{1}{4} = \frac{p}{12}$$

Work out the value of p.

Show all your working. [2]

Working with Fractions Difficult: Easy

Question Paper 3

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Working with Fractions
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 3

Time allowed: **36 minutes**

Score: **/28**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Without using your calculator, work out the following.
Show all the steps of your working and give each answer as a fraction in its simplest form.

(a) $\frac{11}{12} - \frac{1}{3}$ [2]

(b) $\frac{1}{4} \div \frac{11}{13}$ [2]

Question 2

Write down all the working to show that $\dfrac{\frac{3}{5}+\frac{2}{3}}{\frac{3}{5}\times\frac{2}{3}} = 3\frac{1}{6}$ [3]

Question 3

Jiwan incorrectly wrote $1+\frac{1}{2}+\frac{1}{3}+\frac{1}{4}=1\frac{3}{9}$. [3]

Show the correct working and write down the answer as a mixed number.

Question 4

Show that $3^{-2} + 2^{-2} = \frac{13}{36}$. [2]

Write down all the steps of your working.

Question 5

Show that $1\frac{5}{9} \div 1\frac{7}{9} = \frac{7}{8}$. [2]

Write down all the steps in your working.

Question 6

(a) Find the value of x when $\frac{18}{24} = \frac{27}{x}$. [1]

(b) Show that $\frac{2}{3} \div 1\frac{1}{6} = \frac{4}{7}$.

Write down all the steps in your working. [2]

Question 7

Show that $\frac{7}{27} + 1\frac{7}{9} = 2\frac{1}{27}$. [2]

Write down all the steps in your working.

Question 8

Write down the number which is 3.6 less than – 4.7 . [1]

Question 9

Show that $3\frac{3}{4} + 1\frac{1}{3} = 5\frac{1}{12}$. [2]

Write down all the steps in your working.

Question 10

Write as a single fraction $\frac{3a}{8} + \frac{4}{5}$. [2]

Question 11

(a) $\frac{2}{3} + \frac{5}{6} = \frac{x}{2}$.

[1]

Find the value of x.

(b) $\frac{5}{3} \div \frac{3}{y} = \frac{40}{9}$.

[1]

Find the value of y.

Question 12

Work out the value of

$$\frac{-\frac{1}{2} - \frac{3}{8}}{-\frac{1}{2} + \frac{3}{8}}.$$

[2]

Working with Fractions Difficulty: Hard

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Working with Fractions
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **36 minutes**

Score: **/28**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Without using a calculator, work out $1\frac{2}{3} - \frac{11}{15}$.
Write down all the steps of your working and give your answer as a fraction in its lowest terms. [3]

Question 2

(a) Write $\frac{11}{3}$ as a mixed number. [1]

(b) **Without using a calculator**, work out $\frac{1}{4} + \frac{5}{12}$.
Show all the steps of your working and give your answer as a fraction in its lowest terms. [2]

Question 3

Without using a calculator, work out $1\frac{2}{3}+\frac{5}{7}$. [3]

Write down all the steps of your working and give your answer as a mixed number in its simplest form.

Question 4

Without using your calculator, work out $\frac{11}{12}-\left(\frac{3}{4}-\frac{2}{3}\right)$. [4]

You must show all your working and give your answer as a fraction in its simplest form.

Question 5

Without using your calculator, work out $3\frac{1}{3} \div 2\frac{1}{2}$.

You must show all your working and give your answer as a mixed number in its simplest form. [3]

Question 6

Without using a calculator, work out $\frac{6}{7} \div 1\frac{2}{3}$.

Show all your working and give your answer as a fraction in its lowest terms. [3]

Question 7

Without using a calculator, show that $\left(\frac{49}{16}\right)^{-\frac{3}{2}} = \frac{64}{343}$.

[2]

Write down all the steps in your working.

Question 8

Write $\frac{1}{c} + \frac{1}{d} - \frac{c - d}{cd}$ as a single fraction in its simplest form.

[3]

Question 9

Work out the value of $1 + \dfrac{2}{3 + \dfrac{4}{5+6}}$. [2]

Question 10

$\frac{4c}{5} - \frac{3c}{35} = \frac{10}{7}$. Find c. [2]

Bounds
Difficulty: Easy
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Bounds
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **37 minutes**

Score: **/29**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

The length of a car is 4.2 m, correct to 1 decimal place.

Write down the upper bound and the lower bound of the length of this car. [2]

Question 2

The sides of an equilateral triangle are 9.4 cm, correct to the nearest millimetre. [2]

Work out the upper bound of the perimeter of this triangle.

Question 3

A metal pole is 500 cm long, correct to the nearest centimetre.
The pole is cut into rods each of length 5.8 cm, correct to the nearest millimetre. [3]

Calculate the largest number of rods that the pole can be cut into.

Question 4

A rectangle has length 5.8 cm and width 2.4 cm, both correct to 1 decimal place. [3]

Calculate the lower bound and the upper bound of the perimeter of this rectangle.

Question 5

One year ago Ahmed's height was 114 cm.
Today his height is 120 cm.
Both measurements are correct to the nearest centimetre. [2]

Work out the upper bound for the increase in Ahmed's height.

Question 6

The length, l metres, of a football pitch is 96m, correct to the nearest metre.

[2]

Complete the statement about the length of this football pitch.

Question 7

The length, p cm, of a car is 440 cm, correct to the nearest 10 cm.

Complete the statement about p. [2]

Question 8

An equilateral triangle has sides of length 16.1 cm, correct to the nearest millimetre.

Find the lower and upper bounds of the perimeter of the triangle. [2]

Question 9

A large water bottle holds 25 litres of water correct to the nearest litre.
A drinking glass holds 0.3 litres correct to the nearest 0.1 litre.

Calculate the lower bound for the number of glasses of water which can be filled from the bottle.

[3]

Question 10

A carton contains 250 ml of juice, correct to the nearest millilitre.

Complete the statement about the amount of juice, j ml, in the carton.

[2]

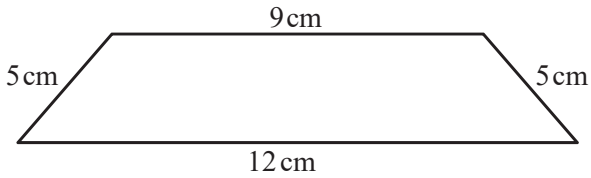
Question 11

The sides of a rectangle are 6.3 cm and 4.8cm, each correct to 1 decimal place.

Calculate the upper bound for the area of the rectangle.

[2]

Question 12



NOT TO SCALE

The diagram shows a quadrilateral.
The lengths of the sides are given to the nearest centimetre.

Calculate the upper bound of the perimeter of the quadrilateral.

[2]

Question 13

The cost of making a chair is $28 correct to the nearest dollar.

Calculate the lower and upper bounds for the cost of making 450 chairs. [2]

Bounds
Difficulty: Easy
Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Bounds
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 2

Time allowed: **40 minutes**

Score: **/31**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

The population of a city is 128 000, correct to the nearest thousand.

(a) Write 128 000 in standard form. [1]

(b) Write down the upper bound of the population. [1]

Question 2

Helen measures a rectangular sheet of paper as 197 mm by 210 mm, each correct to the nearest millimetre.
Calculate the upper bound for the perimeter of the sheet of paper. [2]

Question 3

The length of a side of a regular hexagon is 6.8 cm, correct to one decimal place.

Find the smallest possible perimeter of the hexagon. [2]

Question 4

A fence is made from 32 identical pieces of wood, each of length 2 metres correct to the nearest centimetre.

Calculate the lower bound for the total length of the wood used to make this fence. [3]

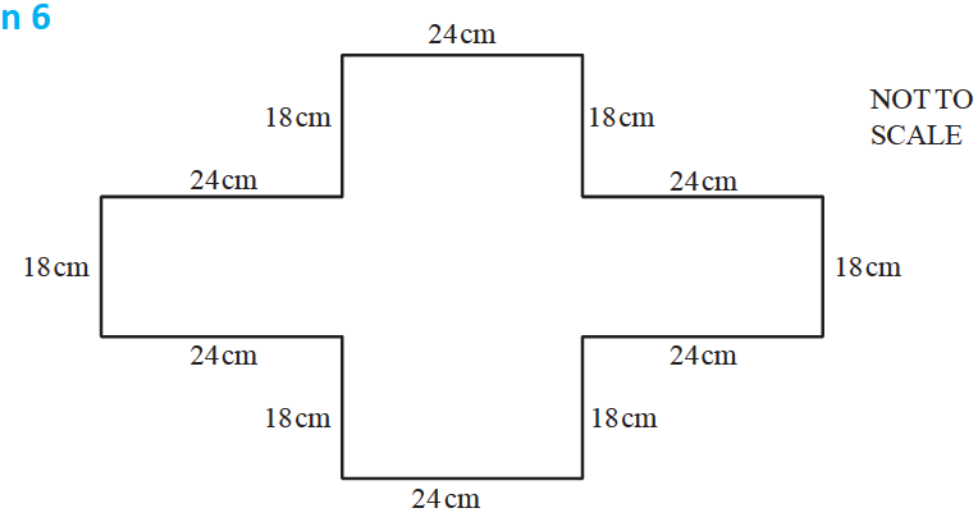
Write down your full calculator display.

Question 5

The length of each side of an equilateral triangle is 74 mm, correct to the nearest millimetre. [2]

Calculate the smallest possible perimeter of the triangle.

Question 6



[3]

Each of the lengths 24 cm and 18 cm is measured correct to the nearest centimetre.
Calculate the upper bound for the perimeter of the shape.

Question 7

In 2005 there were 9 million bicycles in Beijing, correct to the nearest million.
The average distance travelled by each bicycle in one day was 6.5 km correct to one decimal place.
Work out the upper bound for the **total** distance travelled by all the bicycles in one day.

[2]

Question 8

Angharad sleeps for 8 hours each night, correct to the nearest 10 minutes.
The total time she sleeps in the month of November (30 nights) is T hours. [2]
Between what limits does T lie?

Question 9

To raise money for charity, Jalaj walks 22 km, correct to the nearest kilometre, every day for 5 days.

(a) Complete the statement in the answer space for the distance, d km, he walks in one day.

[2]

(b) He raises \$1.60 for every kilometre that he walks.
Calculate the least amount of money that he raises at the end of the 5 days. [1]

Question 10

A square has sides of length d metres.
This length is 120 metres, correct to the nearest 10 metres.

[1]

(a) Complete the statement in the answer space.

(b) Calculate the difference between the largest and the smallest possible areas of the square. [2]

Question 11

The population, P, of a small island was 6380, correct to the nearest 10. [2]
Complete the statement about the limits of P.

Question 12

(a) 32 493 people were at a football match. [1]
Write this number to the nearest thousand.

(b) At another match there were 25 500 people, to the nearest hundred. [2]
Complete the inequality about n, the number of people at this match.

Question 13

A rectangular field is 18 metres long and 12 metres wide. Both measurements are correct to the nearest metre. Work out exactly the smallest possible area of the field.

[2]

Bounds
Difficulty: Hard
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Bounds
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **37 minutes**

Score: **/29**

Percentage: **/100**

Grade Boundaries:

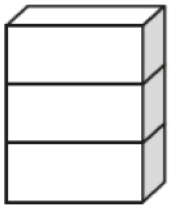
CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1



NOT TO SCALE

The diagram shows three identical cuboids in a tower.
The height of one cuboid is 6.5 cm, correct to the nearest millimetre. [2]

Work out the upper bound of the height of the tower.

Question 2

The sides of a triangle are 5.2 cm, 6.3 cm and 9.4 cm, each correct to the nearest millimetre. [2]

Calculate the lower bound of the perimeter of the triangle.

Question 3

A rectangle has length 62 mm and width 47 mm, both correct to the nearest millimetre.
The area of this rectangle is A mm^2.

[3]

Complete the statement about the value of A.

Question 4

The length of a rectangle is 9.3 cm, correct to 1 decimal place.
Its width is 7.7 cm, correct to 1 decimal place.

Write down the lower bound and the upper bound for the area of the rectangle. [3]

Question 5

The sides of a square are 8 cm, correct to the nearest centimetre.

Calculate the upper bound for the area of the square.

[2]

Question 6

(a) $V = IR$

In an experiment I and R are both measured correct to 1 decimal place.

When $I = 4.0$ and $R = 2.7$, find the **lower** bound for V.

[2]

(b) $S = \frac{D}{T}$

In an experiment D and T are both measured correct to 2 significant figures.

When $D = 7.6$ and $T = 0.23$, find the **upper** bound for S.

[2]

Question 7

The volume of a cuboid is 878 cm^3, correct to the nearest cubic centimetre.
The length of the base of the cuboid is 7 cm, correct to the nearest centimetre.
The width of the base of the cuboid is 6cm, correct to the nearest centimetre.

[3]

Calculate the lower bound for the height of the cuboid.

Question 8

Rice is sold in 75 gram packs and 120 gram packs.
The masses of both packs are given correct to the nearest gram.

[2]

Calculate the lower bound for the difference in mass between the two packs.

Question 9

The mass of 1 cm^3 of copper is 8.5 grams, correct to 1 decimal place.

Complete the statement about the total mass, T grams, of 12 cm^3 of copper. [2]

Question 10

A rectangle has length 127.3 cm and width 86.5 cm, both correct to 1 decimal place.

Calculate the upper bound and the lower bound for the perimeter of the rectangle. [3]

Question 11

A circle has a radius of 8.5 cm correct to the nearest 0.1 cm.

The lower bound for the area of the circle is $p\pi \text{cm}^2$.
The upper bound for the area of the circle is $q\pi \text{cm}^2$.

Find the value of p and the value of q. [3]

Bounds
Difficulty: Hard
Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Bounds
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 2

Time allowed: **35 minutes**

Score: **/27**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Joe measures the side of a square correct to 1 decimal place.
He calculates the **upper** bound for the area of the square as $37.8225\,cm^2$. [2]

Work out Joe's measurement for the side of the square.

Question 2

The number of spectators at the 2010 World Cup match between Argentina and Mexico was 82 000 correct to the nearest thousand.
If each spectator paid 2600 Rand (R) to attend the game, what is the lower bound for the total amount paid?
Write your answer in standard form.

[3]

Question 3

A rectangular photograph measures 23.3 cm by 19.7 cm, each correct to 1 decimal place.
Calculate the lower bound for

(a) the perimeter, [2]

(b) the area. [1]

Question 4

Ashraf takes 1500 steps to walk d **metres** from his home to the station.
Each step is 90 centimetres correct to the nearest 10 cm.

Find the lower bound and the upper bound for d. [3]

Question 5

When a car wheel turns once, the car travels 120 cm, correct to the nearest centimetre. [2]

Calculate the lower and upper bounds for the distance travelled by the car when the wheel turns 20 times.

Question 6

The side of a square is 6.3 cm, correct to the nearest millimetre.
The lower bound of the perimeter of the square is u cm and the upper bound of the perimeter is v cm.
Calculate the value of

(a) u, [1]

(b) $v-u$. [1]

Question 7

A rectangle has sides of length 6.1 cm and 8.1cm correct to 1 decimal place.

Calculate the upper bound for the area of the rectangle as accurately as possible. [2]

Question 8

A rectangle has sides of length 6.1 cm and 8.1cm correct to 1 decimal place.
Complete the statement about the perimeter of the rectangle. [3]

Question 9

Carmen spends 5 minutes, correct to the nearest minute, preparing one meal.
She spends a total time of T minutes preparing 30 meals.
Between what limits does T lie? [2]

Question 10

The distance between Singapore and Sydney is 6300 km correct to the nearest 100 km.
A businessman travelled from Singapore to Sydney and then back to Singapore.
He did this six times in a year. [2]
Between what limits is the total distance he travelled?

Question 11

The length of a road is 380 m, correct to the nearest 10m .
Maria runs along this road at an average speed of 3.9 m/s. [3]
This speed is correct to 1 decimal place.
Calculate the greatest possible time taken by Maria.

Ratios
Difficulty: Easy
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Ratios
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **37 minutes**

Score: **/29**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Ralf and Susie share $57 in the ratio 2 : 1.

(a) Calculate the amount Ralf receives. [2]

(b) Ralf gives $2 to Susie. [2]

Calculate the new ratio Ralf's money : Susie's money.
Give your answer in its simplest form.

Question 2

Pip and Ali share $785 in the ratio Pip : Ali = 4 : 1. [2]

Work out Pip's share.

Question 3

Ahmed and Babar share 240 g of sweets in the ratio 7 : 3.

Calculate the amount Ahmed receives. [2]

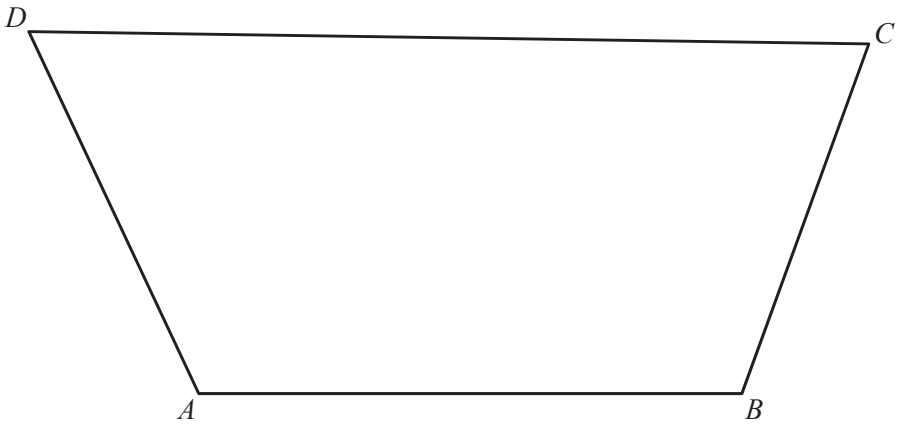
Question 4

Ahmed, Batuk and Chand share $1000 in the ratio 8 : 7 : 5. [3]

Calculate the amount each receives.

Question 5

The diagram shows the plan, *ABCD*, of a park.
The scale is 1 centimetre represents 20 metres.



Scale: 1 cm to 20 m

(a) Find the actual distance *BC*. [2]

Question 6

Hans draws a plan of a field using a scale of 1 centimetre to represent 15 metres.
The actual area of the field is 10 800 m^2.

Calculate the area of the field on the plan. [2]

Question 7

Pedro and Eva do their homework.
Pedro takes 84 minutes to do his homework.

The ratio Pedro's time : Eva's time = 7 : 6. [2]

Work out the number of minutes Eva takes to do her homework.

Question 8

Jamie needs 300 g of flour to make 20 cakes.

How much flour does he need to make 12 cakes?

[2]

Question 9

Martha divides $240 between spending and saving in the ratio

$$\text{spending} : \text{saving} = 7 : 8 .$$

Calculate the amount Martha has for spending.

[2]

Question 10

The scale on a map is 1: 20 000.

(a) Calculate the actual distance between two points which are 2.7 cm apart on the map.
Give your answer in kilometres.

[2]

(b) A field has an area of 64 400 m^2.
Calculate the area of the field on the map in cm^2. [2]

Question 11

The scale of a map is 1 : 250 000.

(a) The actual distance between two cities is 80 km.

Calculate this distance on the map. Give your answer in centimetres. [2]

(b) On the map a large forest has an area of 6 cm^2.

Calculate the actual area of the forest. Give your answer in square kilometres. [2]

Ratios
Difficulty: Hard
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Ratios
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **32 minutes**

Score: **/25**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

A map is drawn to a scale of 1 : 1000 000.
A forest on the map has an area of 4.6 cm^2. [2]

Calculate the actual area of the forest in square kilometres.

Question 2

The scale on a map is 1 : 50 000.
The area of a field on the map is 1.2 square centimetres. [2]

Calculate the actual area of the field in square kilometres.

Question 3

The volume of a child's model plane is $1200\,cm^3$.
The volume of the full size plane is $4050\,m^3$.

Find the scale of the model in the form $1 : n$.

[3]

Question 4

A model of a ship is made to a scale of 1 : 200.
The surface area of the model is $7500\ cm^2$.

Calculate the surface area of the ship, giving your answer in square metres.

[3]

Question 5

The scale of a map is $1 : 500\,000$.

(a) The actual distance between two towns is 172 km.
Calculate the distance, in centimetres, between the towns on the map. [2]

(b) The area of a lake on the map is 12 cm^2
Calculate the actual area of the lake in km^2. [2]

Question 6

A car company sells a scale model $\frac{1}{10}$ of the size of one of its cars.

Complete the following table.

	Scale Model	Real Car
Area of windscreen (cm^2)	135	
Volume of storage space (cm^3)		408 000

[3]

Question 7

A model of a car is made to a scale of 1 : 40.
The volume of the model is 45 cm^3.
Calculate the volume of the car.
Give your answer in m^3. [3]

Question 8

A company makes two models of television.
Model *A* has a rectangular screen that measures 44 cm by 32 cm.
Model *B* has a larger screen with these measurements increased in the ratio 5:4. [2]

(a) Work out the measurements of the larger screen.

(b) Find the **fraction** $\frac{\text{model } A \text{ screen area}}{\text{model } B \text{ screen area}}$ in its simplest form. [1]

Question 9

The ratios of teachers : male students : female students in a school are 2 : 17 : 18. The total number of **students** is 665.
Find the number of **teachers**. [2]

Percentages
Difficulty: Easy
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Percentages
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **39 minutes**

Score: **/30**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Write 55 g as a percentage of 2.2 kg. [2]

Question 2

Work out 85 cents as a percentage of $2.03 . [1]

Question 3

From a sample of 80 batteries, 3 are faulty.

Work out the percentage of faulty batteries.

[1]

Question 4

Jasjeet and her brother collect stamps.
When Jasjeet gives her brother 1% of her stamps, she has 2475 stamps left.

Calculate how many stamps Jasjeet had originally. [3]

Question 5

In a sale, the cost of a coat is reduced from $85 to $67.50 . [3]

Calculate the percentage reduction in the cost of the coat.

Question 6

The population of Dubai at the end of 2012 was 2.1 million.
This was predicted to increase at a rate of 6% each year.

Calculate the predicted population of Dubai at the end of 2015. [3]

Question 7

Anita buys a computer for $391 in a sale.
The sale price is 15% less than the original price.

Calculate the original price of the computer. [3]

Question 8

Calculate 17.5% of 44kg. [2]

Question 9

Emily invests $\$x$ at a rate of 3% per year simple interest. [3]
After 5 years she has \$20.10 interest.

Find the value of x.

Question 10

In 2012 the cost of a ticket to an arts festival was $30.

This was 20% more than the ticket cost in 2011. [3]

Calculate the cost of the ticket in 2011.

Question 11

The Tiger Sky Tower in Singapore has a viewing capsule which holds 72 people.
This number is 75% of the population of Singapore when it was founded in 1819. [2]
What was the population of Singapore in 1819?

Question 12

Samantha invests $600 at a rate of 2% per year simple interest.

Calculate the interest Samantha earns in 8 years.

[2]

Question 13

Maria pays $84 rent.
The rent is increased by 5%.

Calculate Maria's new rent.

[2]

Percentages
Difficulty: Easy

Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Percentages
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 2

Time allowed: **41 minutes**

Score: **/32**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Shania invests \$750 at a rate of $2\frac{1}{2}\%$ per year simple interest.

Calculate the **total** amount Shania has after 5 years. [3]

Question 2

The taxi fare in a city is \$3 **and** then \$0.40 for every kilometre travelled.

(a) A taxi fare is \$9. [2]

How far has the taxi travelled?

(b) Taxi fares cost 30 % more at night.

How much does a \$9 daytime journey cost at night? [2]

Question 3

Hans invests $750 for 8 years at a rate of 2% per year simple interest.

Calculate the interest Hans receives. [2]

Question 4

Maria decides to increase her homework time of 8 hours per week by 15%.

Calculate her new homework time.
Give your answer in hours and minutes. [3]

Question 5

During a marathon race an athlete loses 2 % of his mass.
At the end of the race his mass is 67.13 kg.

Calculate his mass before the race. [3]

Question 6

A concert hall has 1540 seats.

Calculate the number of people in the hall when 55% of the seats are occupied. [1]

Question 7

In 1970 the population of China was 8.2×10^8.
In 2007 the population of China was 1.322×10^9.
Calculate the population in 2007 as a percentage of the population in 1970. [2]

Question 8

In 2004 Colin had a salary of $7200.

(a) This was an increase of 20% on his salary in 2002.
Calculate his salary in 2002. [2]

(b) In 2006 his salary increased to $8100.
Calculate the percentage increase from 2004 to 2006. [2]

Question 9

Celine invests $800 for 5 months at 3% simple interest per year.
Calculate the interest she receives. [2]

Question 10

Sara has $3000 to invest for 2 years.
She invests the money in a bank which pays simple interest at the rate of 7.5 % per year. [2]
Calculate how much interest she will have at the end of the 2 years.

Question 11

In 1950, the population of Switzerland was 4 714 900. In 2000, the population was 7 087 000.

(a) Work out the percentage increase in the population from 1950 to 2000. [2]

(b) (i) Write the 1950 population correct to 3 significant figures. [1]

(ii) Write the 2000 population in standard form. [1]

Question 12

Nyali paid $62 for a bicycle. She sold it later for $46.
What was her percentage loss? [2]

Percentages
Difficulty: Hard
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Percentages
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **40 minutes**

Score: **/31**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Indira buys a television in a sale for $924.
This was a reduction of 12% on the original price. [3]

Calculate the original price of the television.

Question 2

Ahmed paid $34 000 for a car.
His car decreased in value by 40% at the end of the first year.
The value at the end of the second year was 10% less than the value at the end of the first year.

Calculate the value of Ahmed's car after 2 years.

[2]

Question 3

Hazel invests $1800 for 7 years at a rate of 1.5% per year compound interest.

Calculate how much interest she will receive after the 7 years.
Give your answer correct to the nearest dollar. [4]

Question 4

Robert buys a car for $8000.
At the end of each year the value of the car has decreased by 10% of its value at the beginning of that year.

Calculate the value of the car at the end of 7 years.

[2]

Question 5

Georg invests $5000 for 14 years at a rate of 2% per year compound interest.

Calculate the interest he receives.
Give your answer correct to the nearest dollar.

[4]

Question 6

Amalie makes a profit of 20% when she sells a shirt for $21.60.

Calculate how much Amalie paid for the shirt. [2]

Question 7

A student played a computer game 500 times and won 370 of these games.
He then won the next x games and lost none.
He has now won 75% of the games he has played.
Find the value of x. [4]

Question 8

A house was built in 1985 and cost $62 000.
It was sold in 2003 for $310000.

(a) Work out the 1985 price as a percentage of the 2003 price. [2]

(b) Calculate the percentage increase in the price from 1985 to 2003. [2]

Question 9

In 1997 the population of China was 1.24×10^9.
In 2002 the population of China was 1.28×10^9.
Calculate the percentage increase from 1997 to 2002. [2]

Question 10

Abdul invested \$240 when the rate of simple interest was r% per year.
After m **months** the interest was \$$I$.
Write down and simplify an expression for I, in terms of m and r. [2]

Question 11

A baby was born with a mass of 3.6 kg.
After three months this mass had increased to 6 kg.
Calculate the percentage increase in the mass of the baby. [2]

Using a Calculator Difficulty: Easy

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Using a Calculator
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **34 minutes**

Score: **/26**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

$V = 4p^2$

Find V when $p = 3$. [1]

Question 2

Calculate $(2.1 - 0.078)^{17}$, giving your answer correct to 4 significant figures. [2]

Question 3

Calculate. $\dfrac{3.07 + 2^4}{5.03 - 1.79}$ [1]

Question 4

Use your calculator to work out $\sqrt{10 + 0.6 \times (8.3^2 + 5)}$. [1]

Question 5

Use your calculator to find the value of 1.35^7.

Give your answer correct to 5 significant figures. [2]

Question 6

Calculate $\frac{8.24 + 2.56}{1.26 - 0.72}$. [1]

Question 7

Use a calculator to work out the following.

(a) $3\ (-4 \times 6^2 - 5)$ [1]

(b) $\sqrt{3} \times \tan 30° + \sqrt{2} \times \sin 45°$ [1]

Question 8

(a) Use your calculator to work out $\sqrt{65} - 1.7^2$.

Write down all the numbers displayed on your calculator. [1]

(b) Write your answer to **part (a)** correct to 2 significant figures. [1]

Question 9

Use your calculator to find the value of

$$\frac{8.1^2 + 6.2^2 - 4.3^2}{2 \times 8.1 \times 6.2}.$$ [2]

Question 10

Work out $11.3139 - 2.28 \times \sqrt[3]{9^2}$.

Give your answer correct to one decimal place. [2]

Question 11

Find the value of $\dfrac{7.2}{11.8 - 10.95}$.

Give your answer correct to 4 significant figures. [2]

Question 12

(a) Calculate $\sqrt[3]{7^{1.5} + 22^{0.9}}$ and write down your full calculator display. [1]

(b) Write your answer to **part (a)** correct to 4 significant figures. [1]

Question 13

Use your calculator to find $\sqrt{\frac{45 \times 5.75}{3.1 + 1.5}}$. [2]

Question 14

Use your calculator to find the value of

(a) $3^0 \times 2.5^2$, [1]

(b) 2.5^{-2}. [1]

Question 15

Find the value of $\frac{\sqrt[3]{17.1-1.89}}{10.4+\sqrt{8.36}}$. [2]

Using a Calculator Difficulty: Easy

Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Using a Calculator
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 2

Time allowed: **40 minutes**

Score: **/31**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Calculate $81^{0.25} \div 4^{-2}$. [2]

Question 2

Use your calculator to find the value of $2^{\sqrt{3}}$.

Give your answer correct to 4 significant figures. [2]

Question 3

Use a calculator to work out the **exact** value of

$$1 + \frac{1}{5} + \left(\frac{1}{5}\right)^2 + \left(\frac{1}{5}\right)^3 + \left(\frac{1}{5}\right)^4.$$ [2]

Question 4

Calculate $\sqrt[3]{2.35^2 - 1.09^2}$.
Give your answer correct to 4 decimal places.

[2]

Question 5

Calculate the value of $\frac{1}{2}\sqrt{\frac{1}{2}} + \frac{1}{2}\sqrt{\frac{1}{2}}$

[1]

(a) writing down all the figures in your calculator answer,

(b) writing your answer correct to 4 significant figures. [1]

Question 6

Use your calculator to find the value of $\frac{(\cos 30^{\circ})^2 - (\sin 30^{\circ})^2}{2(\sin 120^{\circ})(\cos 120^{\circ})}$. [2]

Question 7

$\sin x^{\circ} = 0.86603$ and $0 \leqslant x \leqslant 180$.

Find the two values of x. [2]

Question 8

Use a calculator to find the value of $\sqrt{(5.4(5.4-4.8)(5.4-3.4)(5.4-2.6))}$.

(a) Write down all the figures in your calculator display. [1]

(b) Give your answer correct to 1 decimal place. [1]

Question 9

(a) Use your calculator to work out

$$\frac{1-(\tan 40^{\circ})^2}{2(\tan 40^{\circ})}.$$ [1]

(b) Write your answer to **part (a)** in standard form. [1]

Question 10

Use your calculator to work out

(a) $\sqrt{(7+6\times243^{0.2})}$, [1]

(b) $2-\tan30°\times\tan60°$. [1]

Question 11

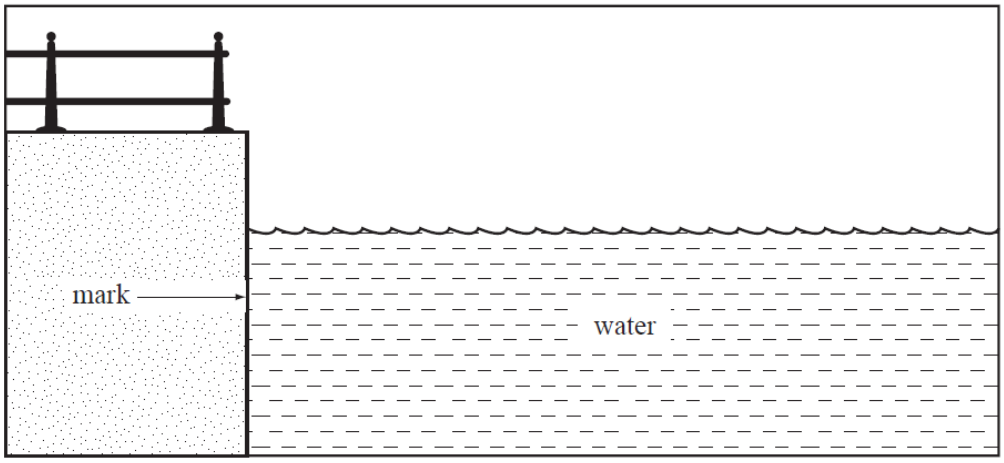
Work out

$$\frac{2\tan30°}{1-(\tan30°)^2}.$$ [2]

Question 12

Calculate the value of $2(\sin 15°)(\cos 15°)$. [1]

Question 13



The height, h metres, of the water, above a mark on a harbour wall, changes with the tide.
It is given by the equation

$$h = 3\sin(30t)^{\circ}$$

where t is the time in hours after midday.

(a) Calculate the value of h at midday. [1]

(b) Calculate the value of h at 19 00. [2]

(c) Explain the meaning of the negative sign in your answer. [1]

Question 14

Calculate $\left(3+3\sqrt{3}\right)^3$ giving your answer correct to 1 decimal place. [2]

Question 15

Use your calculator to find the value of [1]

$$\frac{6\sin 50^\circ}{\sin 25^\circ}.$$

Question 16

Work out $\frac{2+12}{4+3\times 8}$. [1]

Using a Calculator Difficulty: Hard

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Using a Calculator
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **26 minutes**

Score: **/20**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

(a) Use a calculator to work out $\frac{5^{0.4}-\sqrt{3}}{0.13-0.015}$.

Write down all the digits in your calculator display. [1]

(b) Write your answer to **part (a)** correct to 2 significant figures. [1]

Question 2

The thickness of one sheet of paper is 8×10^{-3} cm.

Work out the thickness of 250 sheets of paper. [1]

Question 3

Calculate $\sqrt{120}+3.8^2-25$. [1]

Question 4

Calculate $\sqrt{\frac{1}{2}(1-\cos 48°)}$. [1]

Question 5

Calculate.

(a) $2^3 - \sqrt{10+4^2}$ [1]

(b) $\frac{2\sqrt{3} \times \tan 70°}{3}$ [1]

Question 6

Find the cube root of 4913. [1]

Question 7

Use your calculator to work out $\sqrt{\frac{3}{4}} + 2^{-1}$.

Give your answer correct to 2 decimal places. [2]

Question 8

(a) Use your calculator to find the value of $7.5^{-0.4} \div \sqrt{57}$.
Write down your full calculator display. [1]

(b) Write your answer to **part (a)** in standard form. [1]

Question 9

(a) Calculate $\sqrt{5.7} - 1.03^2$.

Write down all the numbers displayed on your calculator. [1]

(b) Write your answer to **part (a)** correct to 3 decimal places. [1]

Question 10

Use a calculator to find

(a) $\sqrt{5\frac{5}{24}}$, [1]

(b) $\frac{\cos 40°}{7}$. [1]

Question 11

$$m = \frac{1}{4}[3h^2 + 8ah + 3a^2]$$

Calculate the exact value of m when $h = 20$ and $a = -5$. [2]

Question 12

Calculate $3\sin 120° - 4(\sin 120°)^3$. [2]

Time
Difficulty: Easy
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Time
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **48 minutes**

Score: **/37**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

A train leaves Zurich at 2240 and arrives in Vienna at 0732 the next day.

[1]

Work out the time taken.

Question 2

A doctor starts work at 2040 and finishes work at 0610 the next day.

[1]

How long is the doctor at work?
Give your answer in hours and minutes.

Question 3

A bus company in Dubai has the following operating times.

Day	Starting time	Finishing time
Saturday	06 00	24 00
Sunday	06 00	24 00
Monday	06 00	24 00
Tuesday	06 00	24 00
Wednesday	06 00	24 00
Thursday	06 00	24 00
Friday	13 00	24 00

(a) Calculate the total number of hours that the bus company operates in one week. [3]

(b) Write the starting time on Friday in the 12-hour clock. [1]

Question 4

Christa had a music lesson every week for one year.
Each of the 52 lessons lasted for 45 minutes.

Calculate the total time that Christa spent in music lessons.
Give your time in hours. [2]

Question 5

The time in Lisbon is the same as the time in Funchal.
A plane left Lisbon at 0830 and arrived in Funchal at 1020.
It then left Funchal at 1255 and returned to Lisbon.
The return journey took 15 minutes more.

What time did the plane arrive in Lisbon? [2]

Question 6

A shop is open during the following hours.

	Monday to Friday	Saturday	Sunday
Opening time	0645	0730	0845
Closing time	1730	1730	1200

(a) Write the closing time on Saturday in the 12-hour clock time. [1]

(b) Calculate the total number of hours the shop is open in one week. [2]

Question 7

The ferry from Helsinki to Travemunde leaves Helsinki at 1730 on a Tuesday.
The journey takes 28 hours 45 minutes.

Work out the day and time that the ferry arrives in Travemunde.

[2]

Question 8

A bus leaves a port every 15 minutes, starting at 0900.
The last bus leaves at 1730.

How many times does a bus leave the port during one day? [2]

Question 9

The table shows the opening and closing times of a café.

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Opening time	0600	0600	0600	0600	0600	(*a*)	0800
Closing time	2200	2200	2200	2200	2200	2200	1300

(a) The café is open for a total of 100 hours each week.
Work out the opening time on Saturday. [2]

(b) The owner decides to close the café at a later time on Sunday. This increases the total number of hours the café is open by 4%.
Work out the new closing time on Sunday. [1]

Question 10

A plane took 1 hour and 10 minutes to fly from Riyadh to Jeddah.
The plane arrived in Jeddah at 23 05.
At what time did the plane depart from Riyadh? [1]

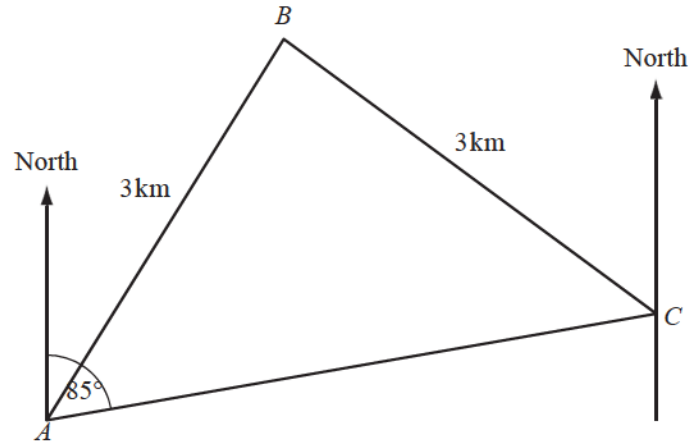
Question 11

A cyclist left Melbourne on Wednesday 21 May at 09 45 to travel to Sydney.
The journey took 97 hours.

[3]

Write down the day, date and time that the cyclist arrived in Sydney.

Question 12



NOT TO SCALE

A, B and C are three places in a desert. Tom leaves A at 06 40 and takes 30 minutes to walk directly to B, a distance of 3 kilometres. He then takes an hour to walk directly from B to C, also a distance of 3 kilometres.

(a) At what time did Tom arrive at C? [1]

(b) Calculate his average speed for the whole journey. [2]

(c) The bearing of C from A is 085°.
Find the bearing of A from C. [1]

Question 13

At 05 06 Mr Ho bought 850 fish at a fish market for $2.62 each.
95 minutes later he sold them all to a supermarket for $2.86 each.

(a) What was the time when he sold the fish? [1]

(b) Calculate his total profit. [1]

Question 14

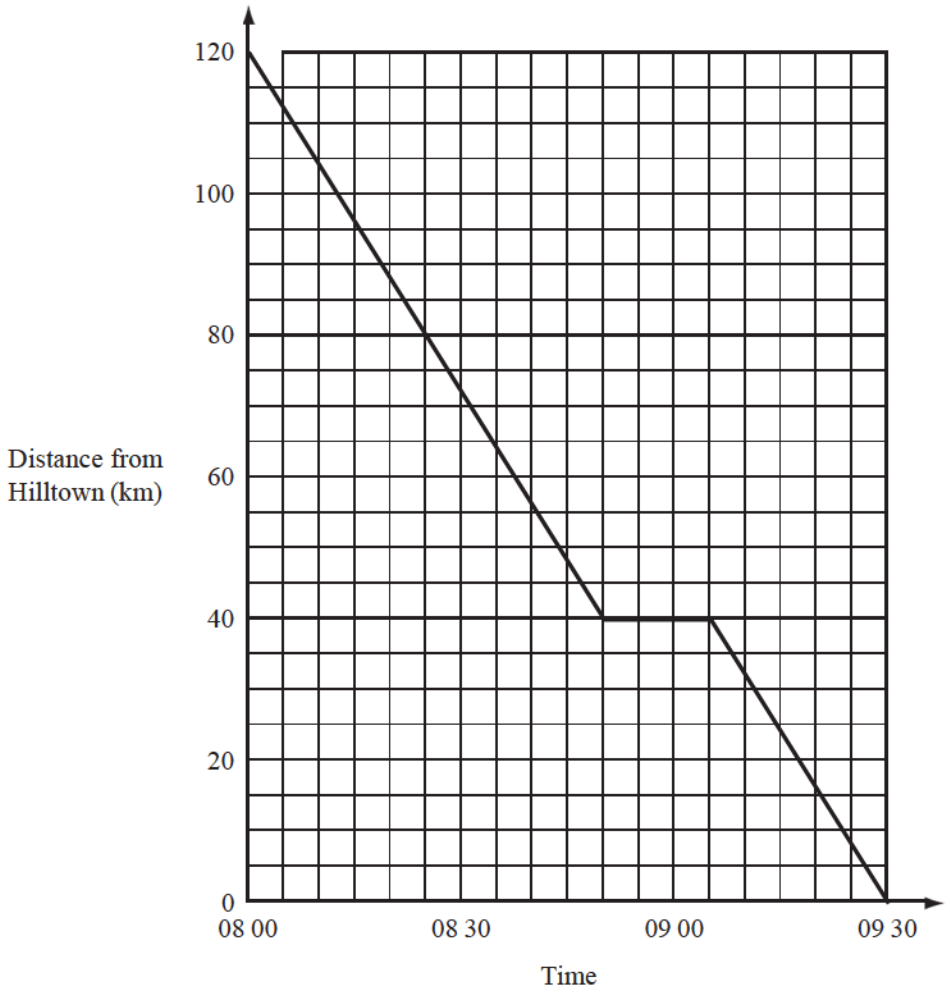
The Canadian Maple Leaf train timetable from Toronto to Buffalo is shown below.

Toronto	1030
Oakville	1052
Aldershot	1107
Grimsby	1141
St Catharines	1159
Niagra Falls	1224
Buffalo	1325

(a) How long does the journey take from Toronto to Buffalo? [1]

(b) This journey is 154 kilometres. Calculate the average speed of the train. [2]

Question 15



The graph shows the distance, in kilometres, of a train from Hilltown.

Find the speed of the train in kilometres per hour at

(a) 08 30, [2]

(b) 09 00. [1]

Question 16

A train left Sydney at 23 20 on December 18th and arrived in Brisbane at 02 40 on December 19th.
How long, in hours and minutes, was the journey?

[1]

Currency
Difficulty: Easy

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Currency
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **36 minutes**

Score: **/28**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

The price of a toy is 12 euros (€) in Germany and 14 Swiss francs in Switzerland.
1 Swiss franc = €0.905

Calculate the difference between these two prices.
Give your answer in euros. [2]

Question 2

Omar changes 2000 Saudi Arabian riyals (SAR) into euros (€) when the exchange rate is €1 = 5.087 SAR.

Work out how much Omar receives, giving your answer correct to the nearest euro.

[2]

Question 3

Carlos changed $950 into euros (€) when the exchange rate was €1 = $1.368 .

[2]

Calculate how many euros Carlos received.

Question 4

James buys a drink for 2 euros (€).

Work out the cost of the drink in pounds (£) when £1 = €1.252 .
Give your answer correct to 2 decimal places.

[3]

Question 5

On a ship, the price of a gift is 24 euros (€) or $30.

What is the difference in the price on a day when the exchange rate is €1 = $1.2378?
Give your answer in dollars, correct to the nearest cent. [3]

Question 6

$1 = 8.2 rand

Change $350 into rands. [2]

Question 7

Carlo changed 800 euros (€) into dollars for his holiday when the exchange rate was €1 = $1.50 .

His holiday was then cancelled.
He changed all his dollars back into euros and he received €750.

Find the new exchange rate. [3]

Question 8

Chris changes $1350 into euros (€) when €1 = $1.313 .

Calculate how much he receives. [2]

Question 9

Martina changed 200 Swiss francs (CHF) into euros (€).
Calculate, in dollars, how much more Jane pays. [2]

The exchange rate was €1 = 1.14 CHF.

Calculate how much Martina received.
Give your answer correct to the nearest euro. [3]

Question 10

George and his friend Jane buy copies of the same book on the internet.
George pays $16.95 and Jane pays £11.99 on a day when the exchange rate is $1 = £0.626.

Calculate, in dollars, how much more Jane pays. [2]

Question 11

Sheila can pay her hotel bill in Euros (€) or Pounds (£).
The bill was €425 or £365 when the exchange rate was £1 = €1.14 .

In which currency was the bill cheaper?
Show all your working. [2]

Question 12

The train fare from Bangkok to Chiang Mai is 768 baht.
The exchange rate is £1 = 48 baht.

[2]

Calculate the train fare in pounds (£).

Currency
Difficulty: Easy
Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Currency
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 2

Time allowed: **39 minutes**

Score: **/30**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Gregor changes $700 into euros (€) when the rate is €1 = $1.4131 .

Calculate the amount he receives. [2]

Question 2

Alberto changes 800 Argentine pesos (ARS) into dollars ($) when the rate is $1 = 3.8235 ARS. He spends $150 and changes the remaining dollars back into pesos when the rate is $1 = 3.8025 ARS. [3]

Calculate the amount Alberto now has in pesos.

Question 3

A meal on a boat costs 6 euros (€) or 11.5 Brunei dollars ($).

In which currency does the meal cost less, on a day when the exchange rate is €1 = $1.9037?
Write down all the steps in your working. [2]

Question 4

Reina went on holiday to New Zealand.

(a) She travelled the 65 km from Tokyo to Narita Airport by taxi. [2]

The taxi journey cost 300 yen (¥) per kilometre plus a fixed charge of ¥ 700.

Calculate the cost of the taxi journey.

(b) At Narita Airport, Reina changed ¥ 71 190 into New Zealand dollars (NZ$).

The exchange rate was NZ$1 = ¥56.5. [2]

How many New Zealand dollars did she receive?

Question 5

The air fare from Singapore to Stockholm can be paid for in Singapore dollars (S$) or Malaysian Ringitts (RM).
One day the fare was S$740 or RM1900 and the exchange rate was S$1= RM2.448 .

How much less would it cost to pay in Singapore dollars?
Give your answer in Singapore dollars correct to the nearest Singapore dollar. [3]

Question 6

In France, the cost of one kilogram of apricots is €3.38 .
In the UK, the cost of one kilogram of apricots is £4.39 .
£1 = €1.04 .
Calculate the difference between these prices.
Give your answer in pounds (£). [2]

Question 7

Michel changed $600 into pounds (£) when the exchange rate was £1 = $2.40.
He later changed all the pounds back into dollars when the exchange rate was £1 = $2.60. [2]

How many dollars did he receive?

Question 8

Ricardo changed $600 into pounds (£) when the exchange rate was $1 = £0.60.
He later changed all the pounds back into dollars when the exchange rate was $1 = £0.72. [2]

How many dollars did he receive?

Question 9

In January Sunanda changed £25 000 into dollars when the exchange rate was $1.96 = £1.
In June she changed the dollars back into pounds when the exchange rate was $1.75 = £1. [3]
Calculate the profit she made, giving your answer in pounds (£).

Question 10

A holiday in Europe was advertised at a cost of €245.
The exchange rate was $1 = €1.06.
Calculate the cost of the holiday in dollars, giving your answer correct to the nearest cent. [2]

Question 11

In April 2001, a bank gave the following exchange rates.
1 euro = 0.623 British pounds.
1 euro = 1936 Italian lire.

(a) Calculate how much one pound was worth in lire. [2]

(b) Calculate how much one million lire was worth in pounds. [1]

Question 12

Alejandro goes to Europe for a holiday.
He changes 500 pesos into euros at an exchange rate of 1 euro = 0.975 pesos.
How much does he receive in euros? Give your answer correct to 2 decimal places. [2]

Currency
Difficulty: Hard
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Currency
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **27 minutes**

Score: **/21**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

For her holiday, Alyssa changed 2800 Malaysian Ringgits (MYR) to US dollars ($) when the exchange rate was 1 MYR = $0.325 .

At the end of her holiday she had $210 left.

(a) How many dollars did she spend? [2]

(b) She changed the $210 for 750 MYR.

What was the exchange rate in dollars for 1 MYR? [1]

Question 2

The table shows how the dollar to euro conversion rate changed during one day.

Time	1000	1100	1200	1300	1400	1500	1600
$1	€1.3311	€1.3362	€1.3207	€1.3199	€1.3200	€1.3352	€1.3401

Khalil changed $500 into euros (€).

How many more euros did Khalil receive if he changed his money at the highest rate compared to the lowest rate?

[3]

Question 3

Pam wins the student of the year award in New Zealand.
She sends three photographs of the award ceremony by post to her relatives.

- one of size 13 cm by 23 cm to her uncle in Australia
- one of size 15 cm by 23 cm to her sister in China
- one of size 23 cm by 35 cm to her mother in the UK

Maximum lengths	Australia	Rest of the world
13 cm by 23.5 cm	$1.90	$2.50
15.5 cm by 23.5 cm	$2.40	$2.90
23 cm by 32.5 cm	$2.80	$3.40
26 cm by 38.5 cm	$3.60	$5.20

The cost of postage is shown in the table above.
Use this information to calculate the total cost. [3]

Question 4

Federico changed 400 euros (€) into New Zealand dollars (NZ$) at a rate of €1 = NZ$ 2.1 .
He spent x New Zealand dollars and changed the rest back into euros at a rate of €1 = NZ$ d.

Find an expression, in terms of x and d, for the number of euros Federico received. [3]

Question 5

(a) In 2007, a tourist changed 4000 Chinese Yuan into pounds (£) when the exchange rate was £1 = 15.2978 Chinese Yuan.
Calculate the amount he received, giving your answer correct to 2 decimal places. [2]

(b) In 2006, the exchange rate was £1 = 15.9128 Chinese Yuan.
Calculate the percentage decrease in the number of Chinese 2006 to £1 from 2007. [2]

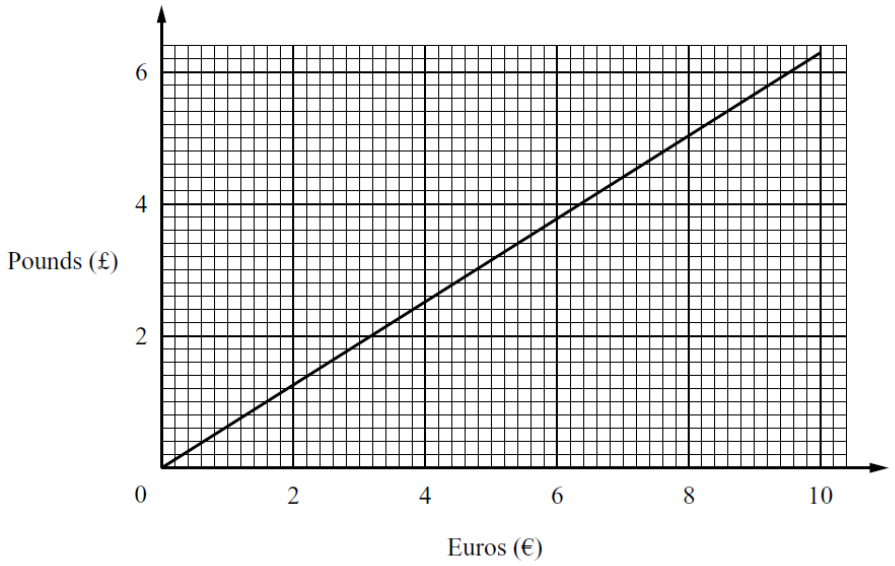
Question 6

(a) In October the cost of a car in euros was €20 000.
The cost of this car in pounds was £14 020.
Calculate the **exact** value of the exchange rate in October. [1]

(b) In November the car still cost €20 000 and the exchange rate was €1 = £0.6915.
Calculate the difference, in pounds, between the cost in October and November. [2]

Question 7

The graph below can be used to convert between euros (e) and pounds (£).



(a) Change £5 into euros. [1]

(b) Change e90 into pounds. [1]

Exponential Growth & Decay
Difficulty: Easy
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Exponential Growth & Decay
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **46 minutes**

Score: **/36**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

The value of a motorbike is $12 400.
Each year, the value of the motorbike decreases exponentially by 15%.

Calculate the value of the motorbike after 3 years. [2]

Question 2

The population of Olton is decreasing at a rate of 3% per year.
In 2013, the population was 50000.

Calculate the population after 4 years.
Give your answer correct to the nearest hundred. [3]

Question 3

Alex invests $200 for 2 years at a rate of 2% per year simple interest.
Chris invests $200 for 2 years at a rate of 2% per year compound interest.

Calculate how much more interest Chris has than Alex. [4]

Question 4

Maryah borrows $12 000 to start a business.
The loan is for 3 years at a rate of 5% per year compound interest.
The loan has to be paid back at the end of the 3 years.

Calculate the total amount to be paid back. [3]

Question 5

Bruce invested $420 at a rate of 4% per year compound interest.

Calculate the **total** amount Bruce has after 2 years.
Give your answer correct to 2 decimal places. [3]

Question 6

Carol invests $6250 at a rate of 2% per year compound interest.

Calculate the **total** amount Carol has after 3 years. [3]

Question 7

Acri invested $500 for 3 years at a rate of 2.8% per year compound interest.

Calculate the final amount he has after 3 years. [3]

Question 8

Pedro invested $800 at a rate of 5% per year compound interest.
Calculate the total amount he has after 2 years. [2]

Question 9

Eva invests $120 at a rate of 3% per year compound interest.

Calculate the total amount Eva has after 2 years.
Give your answer correct to 2 decimal places. [3]

Question 10

Johan invested $600 for 3 years at 4% per year **compound** interest.

Calculate the final amount he had after three years. [3]

Question 11

Nikhil invests \$200 for 2 years at 4% per year **compound** interest.
Calculate the **exact** amount Nikhil has after 2 years. [2]

Question 12

NORTH EASTERN BANK	SOUTH WESTERN BANK
SAVINGS ACCOUNT	SAVINGS ACCOUNT
5%	4.9%
Per Year	Per Year
Simple Interest	Compound Interest

Kalid and his brother have $2000 each to invest for 3 years.

(a) North Eastern Bank advertises savings with simple interest at 5% per year.
Kalid invests his money in this bank.
How much money will he have at the end of 3 years? [2]

(b) South Western Bank advertises savings with compound interest at 4.9% per year.
Kalid's brother invests his money in this bank.
At the end of 3 years, how much more money will he have than Kalid? [3]

Exponential Growth & Decay Difficulty: Hard

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Exponential Growth & Decay
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **28 minutes**

Score: **/22**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

Marcel invests $2500 for 3 years at a rate of 1.6% per year simple interest.
Jacques invests $2000 for 3 years at a rate of x% per year compound interest.
At the end of the 3 years Marcel and Jacques receive the same amount of interest.

Calculate the value of x correct to 3 significant figures. [5]

Question 2

The population of the world grows exponentially at a rate of 1.1% per year.

Find the number of years it takes for the population to grow from 7 billion to 7.31 billion.
Give your answer correct to the nearest whole number. [2]

Question 3

It is estimated that the world's population is growing at a rate of 1.14% per year.
On January 1st 2014 the population was 7.23 billion.

(a) Find the expected population on January 1st 2020. [2]

(b) Find the year when the population is expected to reach 10 billion. [2]

Question 4

At the start of an experiment there are 20000 bacteria.
The number of bacteria increases at a rate of 30% per hour.

(a) Work out the number of bacteria after 4 hours. [2]

(b) After how many **whole** hours, from the start of the experiment, will the number of bacteria be greater than one million?

[2]

Question 5

Boris invests $280 for 2 years at a rate of 3% per year compound interest.

Calculate the interest Boris receives at the end of the 2 years.
Give your answer correct to 2 decimal places. [4]

Question 6

Zainab borrows $198 from a bank to pay for a new bed.
The bank charges compound interest at 1.9 % per month.
Calculate how much **interest** she owes at the end of 3 months. [3]
Give your answer correct to 2 decimal places.