EXAM PAPERS PRACTICE

Numbers & Accuracy

Question Paper

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

Question 15

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 16

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

[2]

Question 17

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

[1]

Question 18

Write 168.9 correct to 2 significant figures. [1]

Question 19

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 20

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.

Question 21

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

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

Question 22

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

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Question 23

Write 15.0782 correct to

(a) one decimal place, [1]

(b) the nearest 10. [1]

Question 24

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

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

[1]

Question 25

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

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

Question HC

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

(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 HT

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

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

Question HY

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]

Question 29

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

Give your answer correct to 4 significant figures.

[2]

Question 30

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]

Question 31

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 32

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]

Question 33

Write the following numbers correct to one significant figure.

(a) 7682 [1]

(b) 0.07682 [1]

Question 34

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 35

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]

Question 36

Write down the next two prime numbers after 43.

[2]

Question 37

Write down the next two prime numbers after 47.

[2]

Question 38

Write the number 1045.2781 correct to

(a) 2 decimal places, [1]

(b) 2 significant figures. [1]

Question 39

Write down

(a) an irrational number, [1]

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

Question 40

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

Question 41

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 42

Write the number 2381.597 correct to

(a) 3 significant figures, [1]

(b) 2 decimal places, [1]

(c) the nearest hundred. [1]

Question 43

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 44

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]