

Questions

Q1.

Sally used her calculator to work out the value of a number y .

The answer on her calculator display began

8.3

Complete the error interval for y .

..... $\leq y <$

(Total for question = 2 marks)

Q2.

Write 478 to the nearest hundred.

.....

(Total for question = 1 mark)

Q3.

Write 1476 to the nearest 10

.....

(Total for question = 1 mark)

Q4.

Work out
$$\frac{0.06 \times 0.0003}{0.01}$$

Give your answer in standard form.

.....

(Total for question = 3 marks)

Q5.

Work out $(13.8 \times 10^7) \times (5.4 \times 10^{-12})$

Give your answer as an ordinary number.

.....
(Total for question = 2 marks)

Q6.

A metal box has a weight of 8×10^3 grams.

Find, in standard form, the weight of 10 of these metal boxes.

..... grams
(Total for question = 1 mark)

Q7.

The distance from the Earth to the Sun is 1.496×10^{11} metres.

The speed of light is 3×10^8 metres per second.

(a) Show that, correct to 3 significant figures, light will take 0.139 hours to travel from the Sun to the Earth.

(3)

1 googol is 1×10^{100}

Danesh says,

" When I multiply 1.496×10^{11} by 6.68×10^9 I get nearly 1 googol because $1.496 \times 10^{11} \times 6.68 \times 10^9 = 9.99 \times 10^{99}$ "

(b) Is Danesh correct?

Give a reason for your answer.

.....
.....
(1)
(Total for question = 4 marks)

Q8.

Write $\frac{7}{16}$ as a decimal.

.....
(Total for question = 1 mark)

Q9.

Write $\frac{7}{100}$ as a decimal.

.....
(Total for question = 1 mark)

Q10.

Write 0.21 as a fraction.

.....
(Total for question is 1 mark)

Q11.

(a) Write 4.7×10^{-1} as an ordinary number.

.....
(1)

(b) Work out the value of $(2.4 \times 10^3) \times (9.5 \times 10^5)$

Give your answer in standard form.

.....
(2)

(Total for question = 3 marks)

Q12.

Express 56 as the product of its prime factors.

.....
(Total for question = 2 marks)

Q13.

Write down two factors of 12

..... ,
(Total for question = 1 mark)

Q14.

Here is a list of numbers.

1 2 5 6 12

From the list, write down

(i) a multiple of 4

.....

(ii) a prime number

.....

(Total for question is 2 marks)

Q15.

Find the Highest Common Factor (HCF) of 24 and 60

.....
(Total for question = 2 marks)

Q16.

(a) Find the lowest common multiple (LCM) of 40 and 56

.....
(2)

$$A = 2^3 \times 3 \times 5 \quad B = 2^2 \times 3 \times 5^2$$

(b) Write down the highest common factor (HCF) of A and B .

.....
(1)
(Total for question = 3 marks)

Q17.

Write down a multiple of 6 that is between 40 and 50

.....
(Total for question = 1 mark)

Q18.

Write 36 as a product of its prime factors.

.....
(Total for question = 2 marks)

Q19.

Here is a list of numbers.

21 22 23 24 25 26 27 28 29

(a) From the numbers in the list, write down a square number.

.....
(1)

(b) From the numbers in the list, write down a number that is a multiple of **both** 4 and 6

.....
(1)

(c) Write down all the prime numbers in the list.

.....
(1)

(Total for question = 3 marks)

Q20.

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

Type of service	Cost
Express	£15.25
Rapid	£35.38

Brendan has to send 12 parcels.

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

(a) How much cheaper?

£

(3)

Luke wants to send 21 parcels by the Express service.

He does the calculation $20 \times £15 = £300$ to estimate the cost.

(b) Explain why Luke's calculation shows the actual cost will be more than £300

.....
.....
.....

(1)

(Total for question = 4 marks)

Q21.

Rehan is on holiday in the USA.

He has \$200 to spend on clothes.

Rehan buys

1 pair of trainers costing \$60

3 T-shirts costing \$25 each.

He also wants to buy a jacket costing \$80

(a) Has Rehan got enough money to buy the jacket?

You must show how you get your answer.

(3)

The trainers cost \$60

The exchange rate is \$1 = £0.749

Rehan says,

"The trainers cost less than £40"

Rehan is wrong.

(b) Using a suitable approximation, **show working** to explain why.

(2)

(Total for question = 5 marks)

Q22.

$$\frac{2.645 \times 10^9}{1.15 \times 10^3}$$

Work out the value of

Give your answer in standard form.

.....
(Total for question = 2 marks)