

Maths Take-Away Menu

Number

Working with Decimals

Explain how $456 \times 63 = 28\,728$ can be used to find the answer to $287.28 \div 4.56$.

£2

Indices

Using rules of indices prove that $32 \div \frac{1}{8} = 2^8$

£2

Working with Bounds

If $x = 125$ correct to 3 significant figures and $y = 5$ correct to 1 significant figure show that the maximum value of $xy = 690.25$

£2

Reciprocals

Show that $2.5^{-1} = 0.4$

£2

Simplifying Surds

Show that $\frac{9\sqrt{2}}{\sqrt{6}} = 3\sqrt{3}$

£2

Drinks

These mixed questions will make a great accompaniment to your meal.



Calculating with Mixed Numbers

Find the value of b if $8\frac{3}{4} \div b = 2\frac{1}{2}$.

£2

Surds

Simplify $\sqrt{3}(2\sqrt{3} - \sqrt{2})$

£2

Errors in Time

Dana completes the 100m race in 12.92 seconds correct to the nearest hundredth of a second. Write an inequality to show the interval error for her time t .

£2

Standard form

Work out $0.00000084 \div 0.00004$
Give your answer in the standard form.

£2

Recurring Decimals

Write $0.3\dot{6}$ as a fraction in its simplest form.

£3

Using a Calculator

Find the value of

$$\frac{4.6^2 + \sqrt[3]{34.2}}{13.8}$$

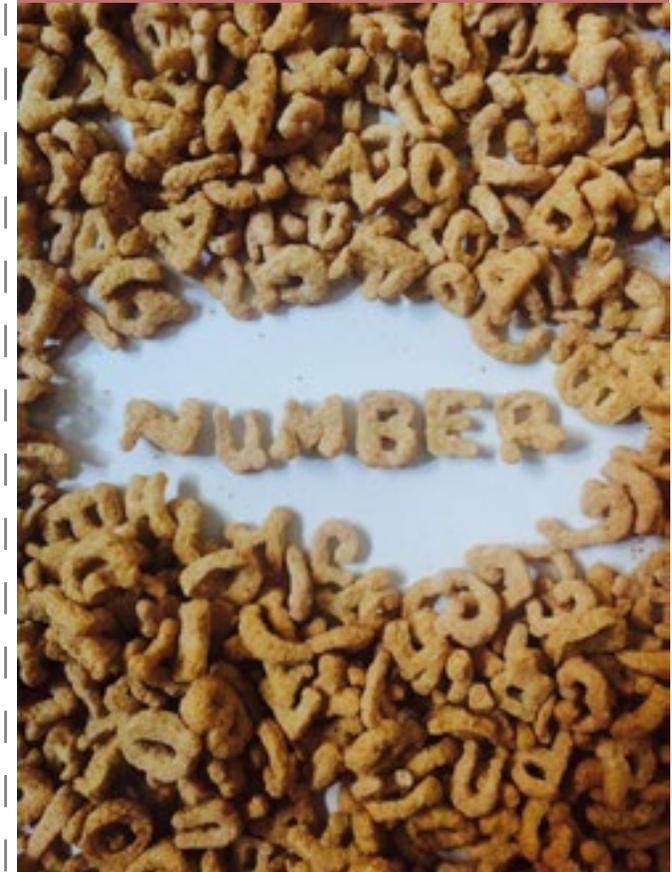
£2

Writing your answer correct to 3 significant figures.

Thank you for ordering your food with us.

We hope you have enjoyed your meal.

Please come back again soon.



Using this Take-Away Menu

For each sitting you will need to choose a Starter, Main Course, Dessert & Drink.

The prices vary for each course.



This symbol indicates that a calculator may be used when answering the question.

Remember to ensure that you show your workings clearly.

If you have any questions don't forget to ask your waiter (that's your teacher).

Enjoy your meal!

Starters

These are quick questions designed to warm you up and get your appetite for maths going!



Indices

Find the value of $81^{1/4}$

£1

Standard Form

Write 0.00000678 in the standard form

£1

Surds

Simplify $\sqrt{72}$

£1

Decimals and Fractions

Write 0.675 as a fraction in its simplest form.

£1

Products of Prime Factors

Write 560 as a product of its prime factors.

£2

Estimating

Estimate

$$\frac{5.44 \times 63.98}{0.1997}$$

£2

Main Course

Your main dish is number based and is served with 'portions' from other areas of Maths or real life applications. These problem solving questions may take a bit more time to digest.



Average Length

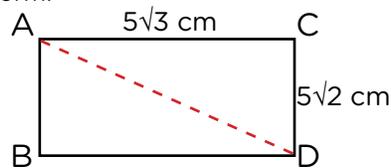
Brynna is competing in the shot put for sports day. Her first shot was measured as $4\frac{3}{4}$ m, the second as $4\frac{5}{6}$ m and the third as $5\frac{1}{4}$ m. Find the mean the length of her throw.

Write your answer as a mixed number in its simplest form.

£3

Length of the Diagonal

Find the length of the diagonal AC of the rectangle ABCD. Write your answer in its simplest form.



£4

Bounds

Amina and her friend set off on a hike passing through 2 villages. The distance to the first village is 18.42km to the nearest 10m. The distance to the second village is 11.8km to the nearest 100m. If it takes 12 hours, to the nearest half an hour, to reach the second village from the starting point, find the upper bound for Amina's average speed.

£4

Populations

The populations of the four countries in the UK are given in the table.

COUNTRY	POPULATION (to the nearest hundred thousand)
ENGLAND	5.3×10^7
NORTHERN IRELAND	1.9×10^6
SCOTLAND	5.3×10^6
WALES	3.8×10^6

The population of the capital of the UK, London is 8×10^6 , rounded to the nearest hundred thousand. Find the percentage of the UK's population that live in the capital.

£4

Arranging Flowers

Betty the florist is making flower displays for a customer's wedding. She has 120 roses, 84 lilies and 168 carnations. The displays need to be identical and contain the same number of each type of flower in each display. What is the greatest number of flower displays that Betty can make without wasting any flowers and how many of each type of flower is used in each display?

£4

Saving for a Rainy Day

When Sean receives his monthly pay, he puts 40% in his savings account and keeps the rest in his general account to pay for his monthly living costs. Last month Sean encountered an unexpected cost when his roof began to leak. He decided to take $\frac{2}{3}$ of the money that he would put in his savings account and a $\frac{1}{4}$ of the money that he would put in his general account to pay for the repair of the roof.

£3

What fraction of his monthly wage did he use to pay for the repairs? Write your answer in its simplest form.

Dessert

"The proof of the pudding is in the eating".

These questions are designed to test your understanding of key number concepts.



Recurring decimals

Show that $\frac{5}{11}$ is a recurring decimal.

£2