

Decimals

- Order, approximate and compare decimals
- Add, subtract, multiply and divide decimals up to three decimal places

Recap

1. What is the value of $2 \times 4 + 8 - 1$?

2. What is the value of $14 + 8 \div 2$?

Recap

1) Calculate the value of $(2 \times 3^3) \div (15 - 9)$.

2) Calculate the value of $16 \times (9 \div 4)^2$

Ordering Decimals

All decimals have place values. You need these to order decimals.

T H Th
1.351

When you want to compare two decimals, line them up at the decimal places.

1.340

If the numbers aren't the same length, replace empty spaces with a zero, then read the numbers.

What's bigger? 351 or 340?

Order these decimals

1. Write the following numbers in order of size. Start with the smallest number. 0.42, 0.4, 0.415, 0.48, 0.469
2. Write the following numbers in order of size. Start with the smallest number. 0.08, 0.25, 0.81, 0.2, 0.68
3. Five boys take part in a long jump competition. The distances jumped were:

4.31m, 4.08m, 4.1m , 4.093m, 4.51m

- (a) Write down the distance of the longest jump
- (b) Put the jumps in order, starting with the shortest.

Put the correct inequality sign in each box.
The first box has been completed for you.

5.1 5.3

0.4 0.14

0.653 0.7

0.1 0.09

Adding and Subtracting Decimals

$$12.472 + 1.35$$

Line it up like you would with normal addition – make sure the decimal places are in line.

$$\begin{array}{r} 12.472 \\ + 1.350 \\ \hline \end{array}$$

Again – when there's an empty place, make sure you put a 0 in there. Then – just add like normal.

Subtraction is *exactly* the same. You just subtract instead.

Add and Subtract these Decimals

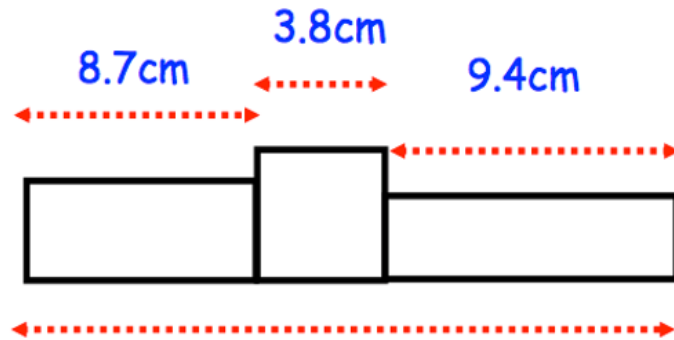
(a) $6.5 + 1.73$

(b) $0.56 + 1.6$

(c) $10.4 - 2.2$

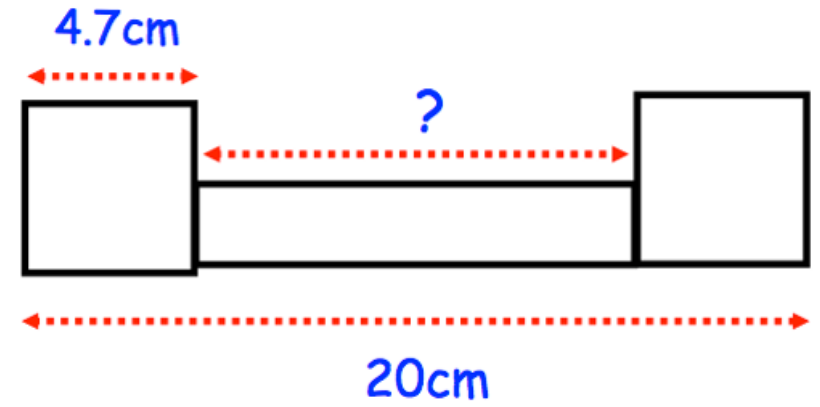
(d) $9.44 - 3.05$

Three blocks are placed together as shown below.



Find the total length of the three blocks.

Two identical squares and a rectangle are drawn below.



Find the length of the rectangle.

Multiplying Decimals

$$0.4 \times 0.5$$

First of all turn them into whole numbers by multiplying by ten, a hundred, a thousand etc. Keep track of what you multiplied the numbers by.

$$\begin{array}{ccc} \curvearrowright & & \curvearrowright \\ 0.4 & \times & 0.5 \\ \times 10 & & \times 10 \end{array} \qquad 4 \times 5 = 20$$

Because you multiplied by 10 twice – we divide by 10...twice!

$$\begin{array}{c} \curvearrowleft \curvearrowleft \\ 20. \end{array}$$

Answer: 0.20!

Multiplying Decimals

(a) 4.8×0.9

(b) 2.4×3.2

(c) 0.94×0.02

(d) 0.18×1.5

Adam needs tickets for him, his mum, wife and five kids. Each ticket costs £2.67. How much does he pay altogether?

Dividing Decimals

$$1.5 \div 0.03$$

First of all turn them into whole numbers by multiplying by ten, a hundred, a thousand etc. If one number is multiplied by *more* do the same to the other number!

$$\begin{array}{ccc} \begin{array}{c} \text{↻ ↻} \\ \text{↻ ↻} \end{array} & & \\ 1.5 \div 0.03 & & 150 \div 3 = 50 \\ \text{x100} & \text{x100} & \end{array}$$

The balance is the same – so the answer is 50!

Divide these Decimals

(a) $48 \div 0.6$

(b) $24 \div 0.03$

(c) $0.14 \div 2$

(d) $54 \div 0.09$

Exam Questions

June 2018

The company advertises its products in France
One French website charges €195 per advert.
The company buys 5 of these adverts.

The exchange rate is £1 = 1.1025 euros

What would be the total cost of the 5 adverts in pounds?

Exam Questions

Oct 2015 (Baggage)

Mark, his wife and their 2 children arrive at the airport.
They take their baggage to the check-in desk.
Their baggage weighs 97.4 kg in total.

Each of the 4 of them has an allowance of 23 kg of check-in baggage.
They have to pay for the baggage over their allowance.

Mark decides to pay with loyalty points.
He has to use 1800 points for each whole kg over the allowance.
Mark has 10 000 points.

Does Mark have enough points for the extra baggage?

(4)

Use the space below to show clearly how you get your answer.

Exam Questions

Jul 2015

Jane is going to make new dresses for the women in the dance group. She goes to Ashley's to buy some material.

The material is on sale.



Jane plans to make 12 dresses. She needs to buy 2.5 metres of material for each dress.

Jane has a budget of £350

(a) Can Jane afford to buy all the material she needs?

(4)

Use the space below to show clearly how you get your answer.

Exam Questions

July 16 – birthday party

Kirsty is going to organise a birthday party for her daughter.

She makes these notes about two party options.

Village hall

Hire the hall for 3 hours at £30 per hour

Entertainer fee – £150

Lunch – £6.80 per child

Party bags – £2.29 for 6 bags

Princess party

Includes venue hire, entertainer
and party bags

£299 (for up to 15 children)

Lunch – £4.49 per child

There will be a total of 12 children at the party.

Kirsty has a budget of £400 for the party.

Which option should Kirsty choose for the party?

Give a reason for your answer with figures.

(6)

Use the space below to show clearly how you get your answer.

Exam Questions

Oct 2017

Aziz decides to buy some olive oil in Naples.

The olive oil is sold in bottles of different sizes at these prices.

250 ml for 1.36 euros

500 ml for 2.46 euros

750 ml for 3.59 euros

Aziz wants to buy a total of 2.5 litres of olive oil.

He wants to pay as little as possible.

(b) How much will Aziz pay in total?

Show a check of your working.

(4)

Use the space below to show clearly how you get your answer.