

Decimals

- Order, approximate and compare decimals
- Add, subtract, multiply and divide decimals up to two 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. (a) 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) $2.45 + 7.8$

(d) $8.67 + 3.9$

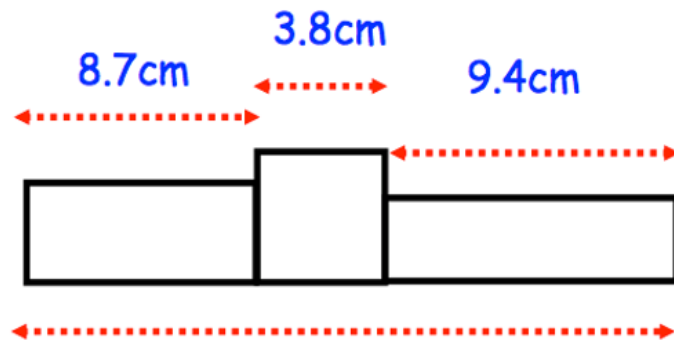
(e) $10.4 - 2.2$

(f) $9.44 - 3.05$

(g) $6.71 - 2.88$

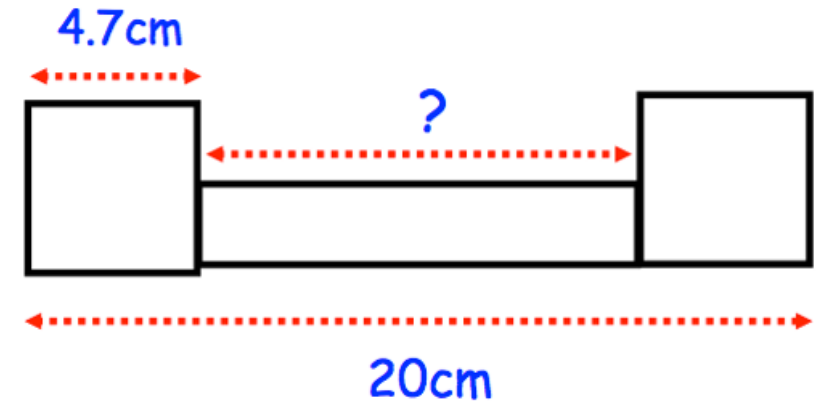
(h) $5.01 - 1.2$

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

1) 4.8×0.9 (b) 2.4×3.2 (c) 0.14×0.7 (d) 0.54×0.9

(e) 0.94×0.02 (f) 0.18×1.5 (g) 9.9×1.22 (h) 0.03×1.3

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) $4.8 \div 0.6$ (b) $24 \div 0.03$ (c) $0.14 \div 2$ (d) $54 \div 0.09$

(e) $1.2 \div 0.06$ (f) $18 \div 0.03$ (g) $22.2 \div 0.11$ (h) $0.32 \div 2$

Exam Questions

June 2018

Michael wants to buy a new car.

He needs to pay

- a cash deposit of £5875
- £229.20 each month for 24 months.

(a) Work out the total amount Michael will pay.

Show a check of your working.

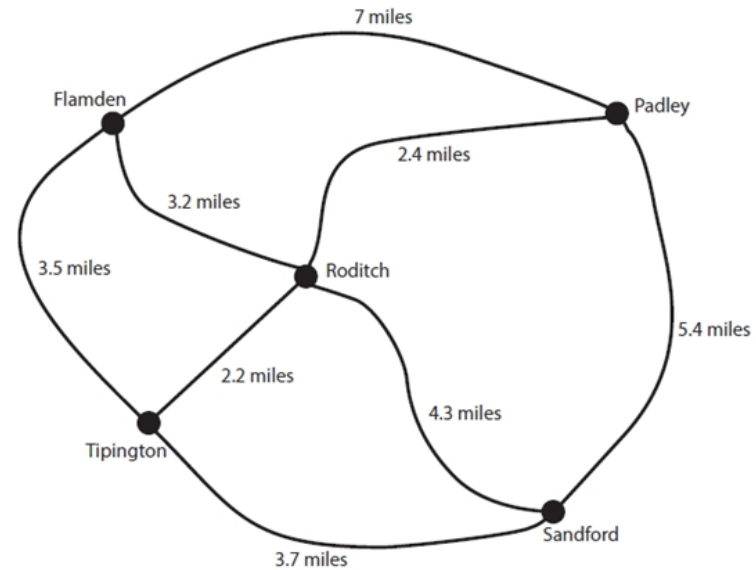
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Exam Questions

July 2018

Gordon runs an ironing service.

Gordon collects and returns ironing from customers.
He uses this sketch to help plan his route.



Gordon needs to

- drive 9.6 miles in Roditch to collect ironing from customers
- collect ironing from the hotel in Padley
- deliver ironing to a restaurant in Tipington
- go to Flamden to buy supplies.

Gordon will start and finish at home in Roditch.
He wants to find the shortest route.

Plan a route for Gordon.
Show the total distance of this route.

Exam Questions

July 2016

Lisa wants to make her home safer.
She finds a first aid kit for £17.74

Lisa thinks it may be cheaper to make a kit up herself.
She finds these prices of items to go in a kit.

Kit items	
Plastic box	£5.94
Plasters	£2.29
Bandages	£7.95
Gloves	80p
Wipes	55p

(a) How much money will Lisa save if she makes the first aid kit?

(3)

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

Exam Questions

July 2015

Four apprentices want to raise £200 for charity.

Three of the apprentices raise these amounts.

Name	Amount raised
Harry	£40.60
Leanne	£81.70
Sanjay	£32.50

Sean is going to run around the playing field.

He is going to get £5.70 for each lap.

Sean thinks he needs to run 8 laps to raise the rest of the money.

Is Sean correct?

Show why you think this.

You must show a check of your working.

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

(5)

Exam Questions

Mar 2018

Reece goes to see a film at the cinema.
He wants to buy a large drink and a large popcorn.

Reece sees this price list and a special offer.

Price list			
	small	medium	large
drink	£1.99	£2.99	£3.99
popcorn	£2.49	£3.49	£4.49

Special offer!
Get a large drink and a large popcorn for £7.50

- (a) How much will Reece save using the special offer to buy his large drink and large popcorn?
Show a check of your working.

(4)

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

Exam Questions

Jan 2017

Liz wants to feed the birds in her garden.
She wants to buy 2 bird feeders and 3 bags of bird seed.

Each bird feeder costs £6.95
A bag of bird seed costs £3.10

(a) Work out the total cost for Liz.

(3)

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