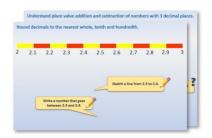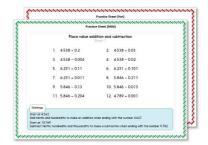# Week 8, Day 4
Finding the mean (2)

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. Start by reading through the **Learning Reminders**.
   They come from our *PowerPoint* slides.

2. Tackle the questions on the **Practice Sheet**.
   There might be a choice of either Mild (easier) or
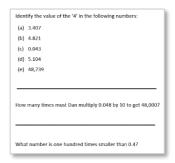   Hot (harder)!
   Check the answers.

3. Finding it tricky? That's OK… have a go with a
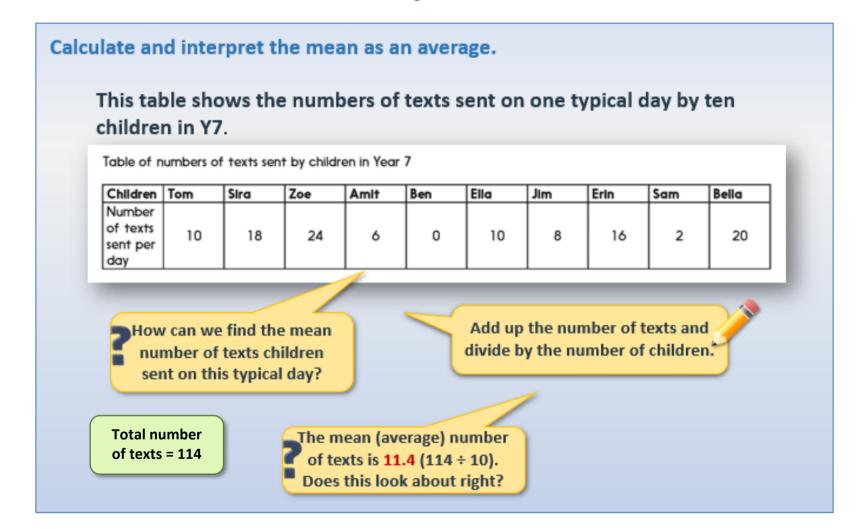   grown-up at **A Bit Stuck?**

4. Have I mastered the topic? A few questions to
   Check your understanding.
   Fold the page to hide the answers!

Learning Reminders

Calculate and interpret the mean as an average.

This table shows the numbers of texts sent on one typical day by ten children in Y7.

Table of numbers of texts sent by children in Year 7

Children	Tom	Sira	Zoe	Amit	Ben	Ella	Jim	Erin	Sam	Bella
Number of texts sent per day	10	18	24	6	0	10	8	16	2	20

? How can we find the mean number of texts children sent on this typical day?

Add up the number of texts and divide by the number of children.

Total number of texts = 114

? The mean (average) number of texts is **11.4** (114 ÷ 10). Does this look about right?

Calculate and interpret the mean as an average.

These tables show the numbers of texts sent on one typical day by ten children in Y7 and ten children in Y10.

Table of numbers of texts sent by children in Year 7

Children	Tom	Sira	Zoe	Amit	Ben	Ella	Jim	Erin	Sam	Bella
Number of texts sent per day	10	18	24	6	0	10	8	16	2	20

? Do you think the average number of texts is higher or lower for children in Year 10?

A Year 10 student has calculated the mean as 32.
Does this seem correct?

Table of numbers of texts sent by children in Year 10

Children	Ann	Ahmed	Sean	Jill	Sian	Anjeli	Finn	Bob	Will	Kate
Number of texts sent per day	16	14	12	26	30	24	19	14	29	34

Total number of texts = 218

32 seems a bit high, only one pupil (Kate) sent more than that. Work out the correct mean.

The correct mean is 21.8.

Practice Sheet for All
Finding the mean

Lengths completed in the swimming lesson

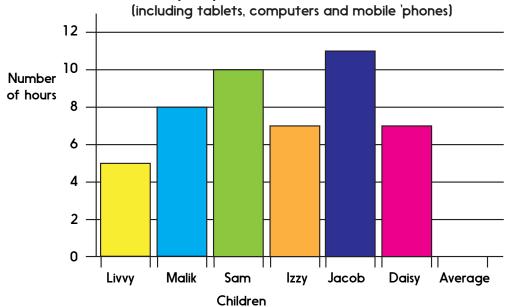| Livvy	Malik	Sam	Izzy	Jacob	Daisy
10	6	8	14	20	17

1. Find the average (mean) number of lengths completed by the six friends, accurate to one decimal place.

Number of words correctly spelt in the sponsored spell.

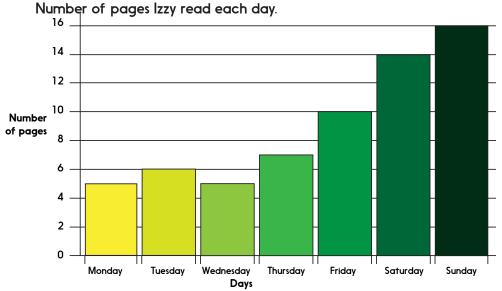| Livvy	Malik	Sam	Izzy	Jacob	Daisy
15	19	18	12	14	17

2. Children were given 20 words to learn for the sponsored spell.
   Work out the average number of words the friends spelt correctly, accurate to one decimal place.

Hours spent per week on electronic devices
(including tablets, computers and mobile 'phones)

3. Draw a bar to show the average time spent by these children per week on electronic devices.

Number of pages Izzy read each day.

4. Predict, then calculate the average number of pages Izzy read each day.

Practice Sheet for All (continued)
Finding the mean

Challenge

Hot: Tackle this Challenge!

1. Write four numbers to make these five numbers have an average of 6.

☐ ☐ 7 ☐ ☐

2. Write ten numbers with a mean of 4.5.

Practice Sheet Answer

Finding the mean

1. Average number of lengths swam = 12.5
2. Average number of words spelt correctly = 15.8
3. Average time spent on electronic devices = 8 hours
4. Average number of pages Izzy read each day = 9

Challenge

1. Any four numbers with a total of 23 so that the total will be 30, to give a mean score of 6 (30 ÷ 5).

2. 2. Any 10 numbers with a total of 45.

This dice has numbers 1 to 6 on its faces.

If each number was rolled once, the average (mean) would be 3.5.

$$1 + 2 + 3 + 4 + 5 + 6 = 21 \qquad 21 \div 6 = 3.5$$

If we the change 6 to a 12, this would increase the average (mean):

$$1 + 2 + 3 + 4 + 5 + 12 = 27 \qquad 27 \div 6 = 4.5$$

Calculate the average if we instead we change the 1 to a 7.

$$7 + 2 + 3 + 4 + 5 + 6 = \boxed{} \qquad \boxed{} \div 6 = \underline{}$$

Now, find another way to increase the average to 4.5.

These six dice are rolled, with the results: 3, 2, 4, 5, 6, 4.
Calculate the average score.

The next six dice produce these scores:

| 8 | 3 | 8 | 7 | 4 | 6 |

Find the average score in each case.

And the last six dice produce these scores:

| 5 | 3 | 5 | 7 | 8 | 2 |

Check your understanding
Questions

The friends have these amounts of money in their purses.

Jo: £5.50   Tim: £12   Sam: £4.60

Jill: £6.40   Fred: £8   Ann: £5.50

What is the average (mean) amount that they have?
Which children have less than this?

These are three children's spelling test scores. Calculate the average score for each child.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Nadiya	7	8	9	8	9	10	8	9
Dean	9	10	9	10	7	10	9	8
Emma	6	7	8	7	8	9	6	7

Fold here to hide answers

Check your understanding
Answers

The friends have these amounts of money in their purses.
Jo: £5.50   Tim: £12   Sam: £4.60
Jill: £6.40   Fred: £8   Ann: £5.50
What is the average amount that they have?   £7   The total £42 divided by 6.
Which children have less than this? Jo, Sam, Jill and Ann.

These are three children's spelling test scores. Calculate the average score for each child.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Nadiya	7	8	9	8	9	10	8	9
Dean	9	10	9	10	7	10	9	8
Emma	6	7	8	7	8	9	6	7

Nadiya = $8\frac{1}{2}$ or 8.5   Dean = 9   Emma = $7\frac{1}{4}$ or 7.25