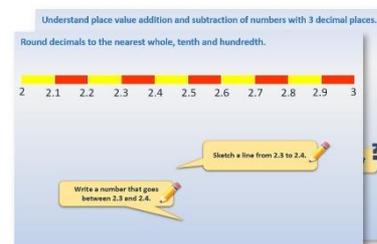


# Week 14, Day 3

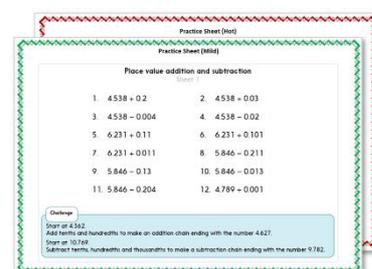
## Find the mean (average)

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

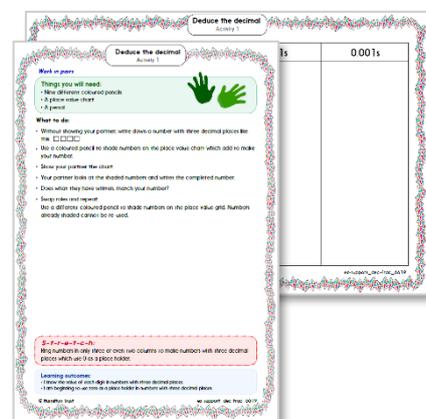
1. Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.



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. Think you've cracked it? Whizzed through the Practice Sheets? Have a go at the **Investigation**...

## Learning Reminders

### Understand and calculate a mean.

What does the word 'average' mean to you?

We say that someone is of average height if they are neither particularly tall nor short. If we measured the height of everyone in our class, added the measurements and divided the total measurement by the number of people in our class, we would find the mean height for our class. That would be different to the mean height of the children in reception!

The mean is one type of average.

A sprinter ran 100m in times of 12s, 15s, 13s, and 16s; then calculated her mean time to be 18s. Does this sound right?

Today's '**Top Tip for Tests**' is for finding a mean: Think whether your answer looks 'average', roughly in the middle of the range of numbers.

Add the 4 times together and divide by 4 to find her mean time. **14s**

Does your answer look right?

#### Checking ...

Add the times:  $12 + 15 + 13 + 16 = 56$

Divide by the number of times:  $56 \div 4 = 14$  seconds

# Learning Reminders

Understand and calculate a mean.

8 10  
12

What is the mean?

What is the mean?

7 10  
13

Your challenge is to write three other numbers with a mean of 10.

How did you do this?

**Spoiler alert: Answers**

Understand and calculate a mean.

8 10  
12

What is the mean?

$$8 + 10 + 12 = 30$$
$$30 \div 3 = \underline{10}$$

What is the mean?

$$7 + 10 + 13 = 30$$
$$30 \div 3 = \underline{10}$$

7 10  
13

Your challenge is to write three other numbers with a mean of 10.

How did you do this?

Write three numbers with a total of 30.

## Practice Sheet Mild

### Find a mean

1. These are Sarah's last four scores in her spelling tests.

23, 19, 21, 17

Calculate her mean (average) score.

2. Class 6 measured the rainfall each day (see graph).

Calculate the mean daily rainfall.

3. There are 4 classes in KS2 at Chestnut School.

Year	Number in the class
3	28
4	25
5	32
6	27

Calculate the mean class size.

4. Six people's index fingers are the following lengths:

8cm, 9cm, 8cm, 7cm, 7cm, 9cm.

What is the mean length?

5. Write two different numbers in the boxes so that the mean of the three numbers is 5.

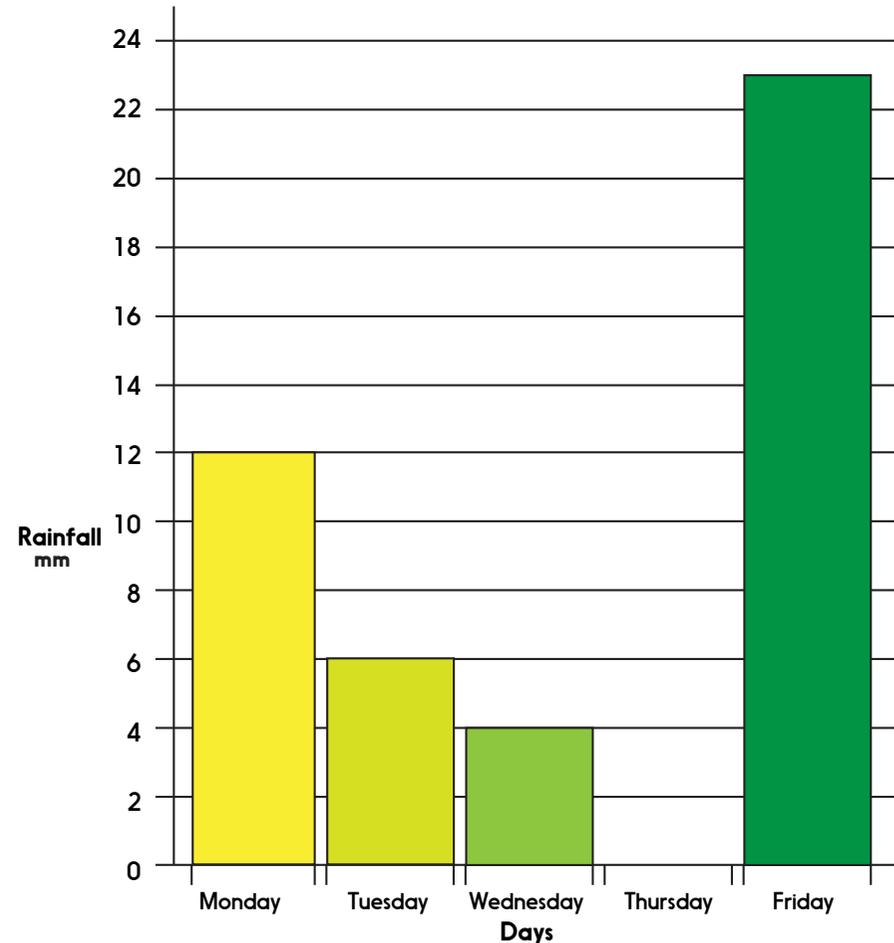
5

6. The following three numbers have a mean of 10.

Which number is missing?

8 10

A graph to show the amount of rainfall in SATs week



## Practice Sheet Hot

### Find a mean

1. These are Megan's last five scores in her spelling tests.

23, 19, 21, 17, 25

Calculate her mean (average) score.

2. Class 6 measured the rainfall each day (see graph).

Calculate the mean daily rainfall.

3. There are 8 classes in KS2 at Chestnut School.

Year	Number in the class
3A	28
3B	25
4A	31
4B	27
5A	29
5B	31
6A	26
6B	27

Calculate the mean class size.

4. Six children's index fingers are the following lengths:

7cm, 9cm, 8cm, 6cm, 7cm, 8cm.

What is the mean length?

5. Write four numbers with a mean of 10.

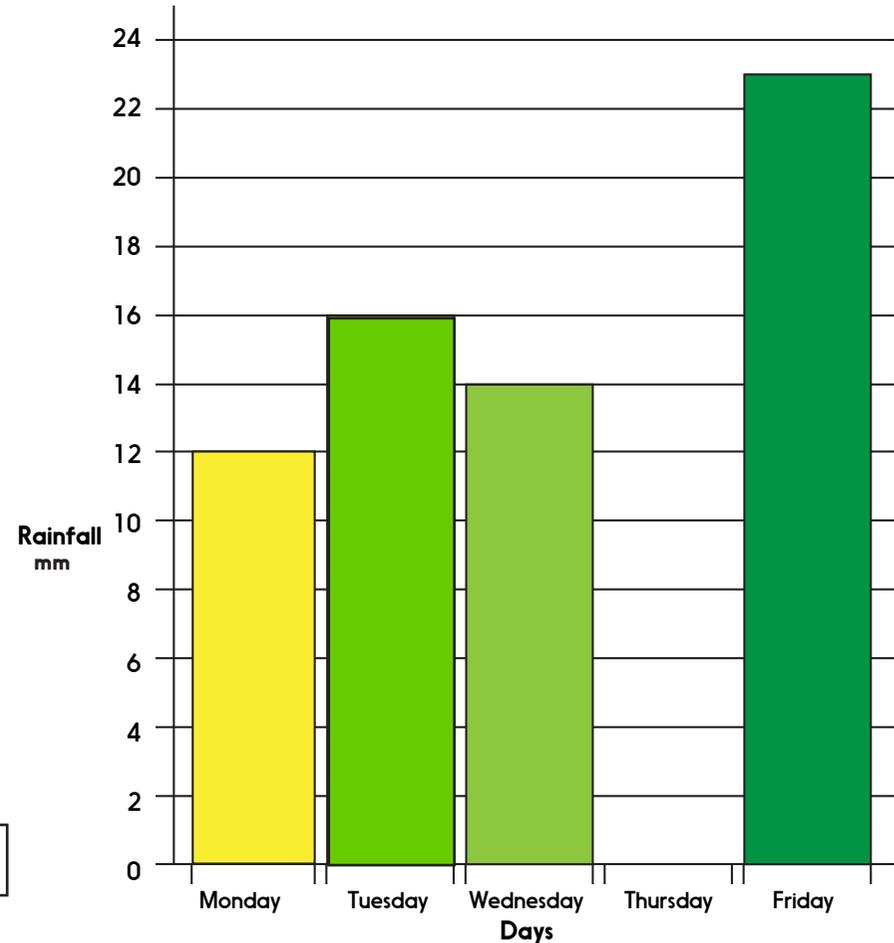
--	--	--	--

6. The following four numbers have a mean of 10.

Which number is missing?

8   10      11

A graph to show the amount of rainfall in SATs week



## Practice Sheets Answers

### Find a mean (mild)

1. Sarah's average score in her spelling test is **20**.  
 $23 + 19 + 21 + 17 = 80$        $80 \div 4 = 20$
2. Mean rainfall is **9mm**.  
 $12\text{mm} + 6\text{mm} + 4\text{mm} + 0\text{mm} + 23\text{mm} = 45\text{mm}$        $45\text{mm} \div 5 \text{ days} = 9\text{mm}$
3. Mean KS2 class size at Chestnut School is **28**.  
 $28 + 25 + 32 + 27 = 112$        $112 \div 4 = 28$
4. Mean index finger length is **8cm**.  
 $8\text{cm} + 9\text{cm} + 8\text{cm} + 7\text{cm} + 7\text{cm} + 9\text{cm} = 48\text{cm}$        $48\text{cm} \div 6 = 8\text{cm}$
5. e.g. 

7
---

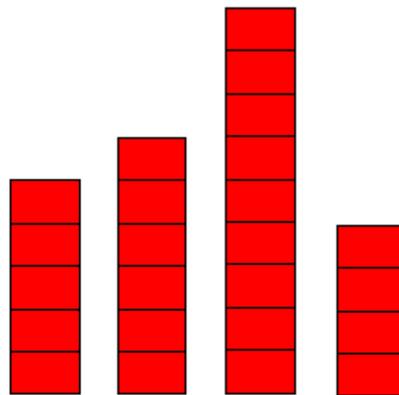
 5 

3
---
6. **12** is the missing number.

### Find a mean (hot)

1. Megan's average score in her spelling test is **21**.  
 $23 + 19 + 21 + 17 + 25 = 105$        $105 \div 5 = 21$
2. Mean rainfall is **13mm**.  
 $12\text{mm} + 16\text{mm} + 14\text{mm} + 0\text{mm} + 23\text{mm} = 65\text{mm}$        $65\text{mm} \div 5 \text{ days} = 13\text{mm}$
3. Mean KS2 class size at Chestnut School is **28**.  
 $28 + 25 + 31 + 27 + 29 + 31 + 26 + 27 = 224$        $224 \div 8 = 28$
4. Mean index finger length is **7.5cm**.  
 $7\text{cm} + 9\text{cm} + 8\text{cm} + 6\text{cm} + 7\text{cm} + 8\text{cm} = 45\text{cm}$        $45\text{cm} \div 6 = 7.5\text{cm}$
5. e.g. 8, 12, 16, 4 have a mean of 10. 15, 12, 9, 4 also have a mean of 10.
6. **11** is the missing number.

## A Bit Stuck? Mean towers



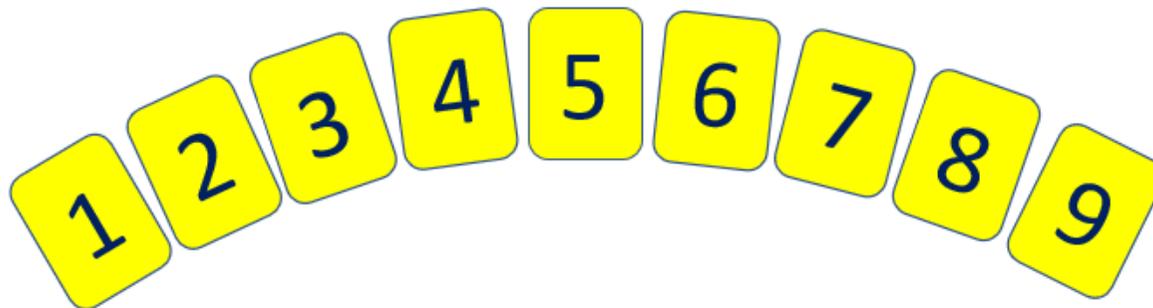
- Calculate the mean (average) number of bricks in the four towers above.  
*[Remember: to do this, add the number of bricks in the towers and divide by the number of towers, 4.]*
- Sketch a tower of this height by the side. Does it look about right? Does it look 'average'?
- Now sketch four new towers, using the **same total number** of bricks.  
Find the average height.
- Repeat with another four towers, using the same total number of bricks.  
What happens?  
Why is this?



### *S-t-r-e-t-c-h:*

- Use the same number of bricks. If you draw 3 towers, all different heights, what will be their average height?
- Use the same number of bricks. If you draw 6 towers, all different heights, what will be their average height?

## Investigation Mean digits



### Your challenge!

- Find three different numbers from these cards with a mean of 7.
- Find four different numbers from these cards with a mean of 7, and then five different numbers with a mean of 7.
- What type of number must the numbers add up to each time?
- Is it possible to find six different numbers, using the 0–9 digit cards, with a mean of 7?
- What if some digit cards can be repeated?
- Now choose a number to be the mean when you are using six different digit cards. Then try to find the six different digit cards you need that will give this number as the mean.
- Repeat for seven different digit cards.