

Year 6 Maths
Week 12 Lesson 2
Statistics – Mean Average



Statistics – Statistics – Mean Average

In this lesson you will apply yesterday's learning to:

- reasoning questions;
- word problems.



Problem Solving 1

Leigh knows that the mean of his cards is 18.



He spilled paint on 2 of his cards.
What could the missing numbers be?

For the mean to be 18. The sum of the 6 cards would have to be $6 \times 18 = 108$

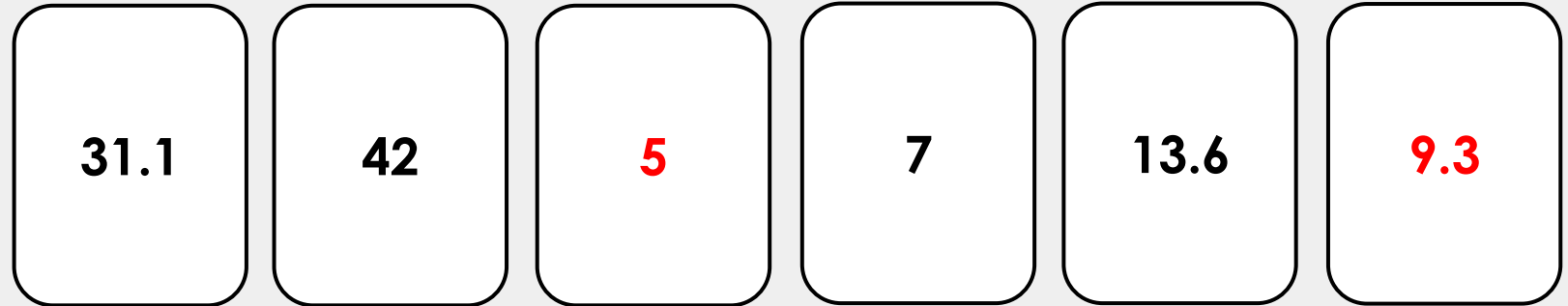
The sum of the 4 cards is 93.7.

$$108 - 93.7 = 14.3$$

So the sum of the remaining two cards has to be 14.3.

Problem Solving 1

Leigh knows that the mean of his cards is 18.



**He spilled paint on 2 of his cards.
What could the missing numbers be?**

Accept any two numbers with a sum of 14.3, e.g. 5 and 9.3

Problem Solving 2

Four friends are trying to work out the mean of their spending money. Shauna gets £4 less than Ellie. Ellie gets £3 more than Asif. Asif gets £6 less than Max who gets £20.



What is their mean spending money?

Let's look at the facts.

Max gets £20.

Asif gets £6 less than Max. £20
- £6 = £14.

Ellie gets £3 more than Asif.
£14 + £3 = £17.

Shauna gets £4 less than Ellie.
£17 - £4 = £13.

Problem Solving 2

Four friends are trying to work out the mean of their spending money. Shauna gets £4 less than Ellie. Ellie gets £3 more than Asif. Asif gets £6 less than Max who gets £20.



What is their mean spending money?

$$\mathbf{£20 + £14 + £17 + £13 = £64}$$

$$\mathbf{£64 \div 4 = £16}$$

Reasoning 1

**Winston is calculating the mean of five numbers:
13, 61.4, 23.6, 19 and 3.**



To work out the mean, I found the sum of the four largest numbers and then divided them by the small number.

Do you agree with Winston? Why?

Reasoning 1

Winston is calculating the mean of five numbers:
13, 61.4, 23.6, 19 and 3.



To work out the mean, I found the sum of the four largest numbers and then divided them by the small number.

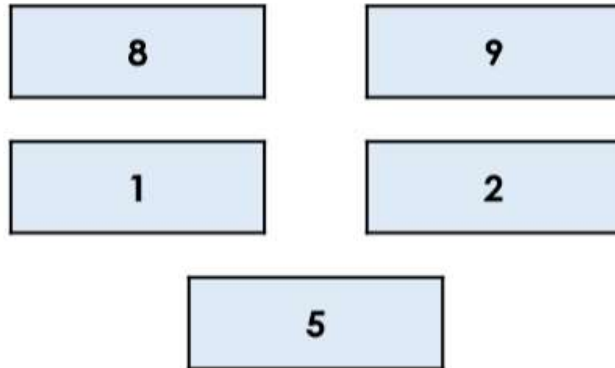
Do you agree with Winston? Why?

Winston is incorrect because to calculate the mean, you must find the sum of all the numbers and then divide by the amount of numbers.

Main Tasks – part i

Level 1

1a. Calculate the mean of these numbers.



VF

2a. Tick the correct mean of these children's test scores.



13

17

12

18

13

14

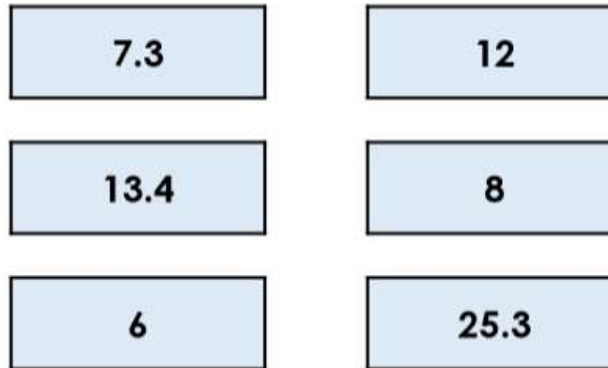
15



VF

Level 2

5a. Calculate the mean of these numbers.



VF

6a. Tick the correct mean of these children's test scores.



23

21

19

30

27

20

24

23



VF

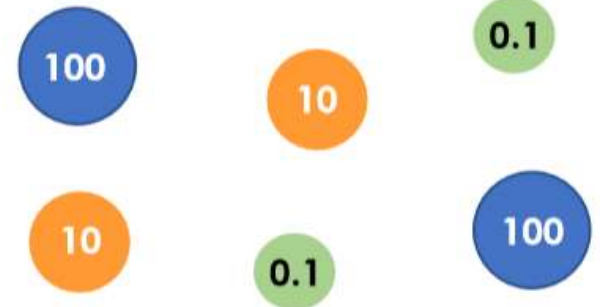
Level 3

9a. Calculate the mean of these numbers.



VF

10a. Calculate the mean value of the place value counters.



VF

Main Tasks – part ii

Level 1

11a. True or false? The mean of these numbers is $108\frac{1}{4}$.



VF

12a. Six children have been growing plants and want to calculate the mean height. They measure 12cm, 204mm, 0.17m, 18.3cm, 167mm, 0.14m.



What is their mean height in cm?



VF

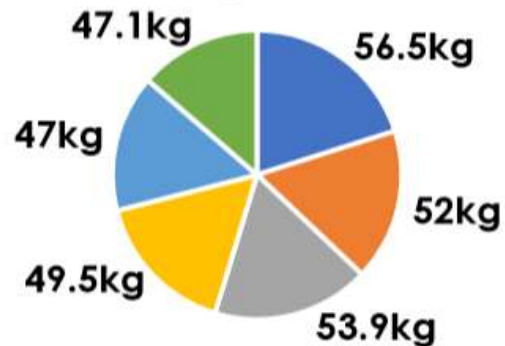
Level 2

7a. True or false? The mean of these numbers is 16.



VF

8a. The chart below shows the weight of six different chimpanzees.



What is their mean weight?



VF

Level 3

3a. True or false? The mean of these numbers is 8.



VF

4a. Four friends want to share out their sweets equally. They have 8, 4, 7 and 9 sweets.



What is the mean amount of sweets?



VF

Developing

1a. **5**

2a. **15**

3a. **False (6)**

4a. **7**

Expected

5a. **12**

6a. **24**

7a. **True**

8a. **51kg**

Greater Depth

9a. **136.5**

10a. **36.7**

11a. **False ($105\frac{1}{4}$) or 105.25**

12a. **16.4cm**

Here are the answers. How did you do?

There's going to be two more pages of questions. If you made some mistakes then great! Mistakes are brilliant as we remember them and learn from them.

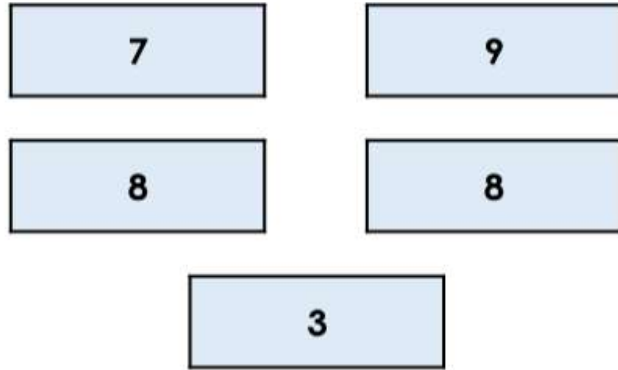
The following questions are similar to the previous ones, so apply what you learnt from the previous ones.

You may also want to move up a level if you're feeling confident.

Main Tasks – part iii

Level 1

1b. Calculate the mean of these numbers.



VF

2b. Tick the correct mean of these children's Sports Day scores.



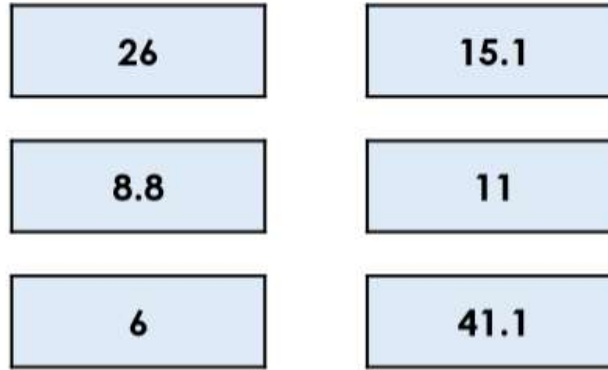
21	22	23
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VF

Level 2

5b. Calculate the mean of these numbers.



VF

6b. Tick the correct mean of these children's Sports Day scores.



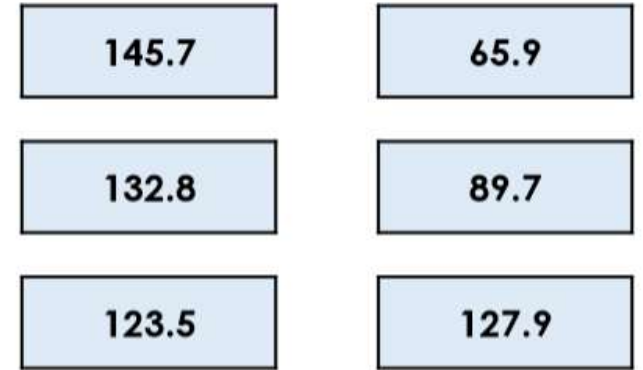
24	25	26
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VF

Level 3

9b. Calculate the mean of these numbers.



VF

10b. Calculate the mean of these coins.

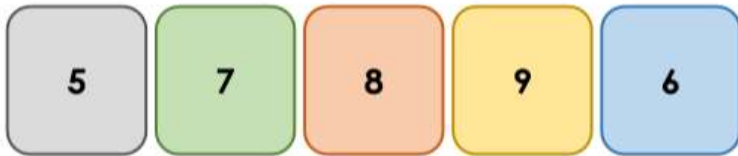


VF

Main Tasks – part iv

Level 1

3b. True or false? The mean of these numbers is 7.



VF

4b. Four friends want to share their toys out equally. They have 9, 8, 3 and 12 toys.



What is the mean amount of toys?



VF

Level 2

7b. True or false? The mean of these numbers is 19.



VF

8b. The table below shows how much six friends spent on sweets.

Leon	£1.64
Alice	£0.65
Chloe	£2.33
Noah	£1.62
Jamie	£3.25
Samantha	£2.51



What is the mean amount they spent?



VF

Level 3

11b. True or false? The mean of these numbers is $220\frac{1}{3}$.



VF

12b. Six friends want to calculate their mean height. They measure 1.43m, 136cm, 1.4m, 139cm, 1410mm, 1350mm.



What is their mean height in metres?



VF

Developing

1b. **7**

2b. **22**

3b. **True**

4b. **8**

Expected

5b. **18**

6b. **26**

7b. **False (20)**

8b. **£2**

Greater Depth

9b. **114.25**

10b. **£0.76**

11b. **True**

12b. **1.39m**

Well done!

If there's anything you are still unsure of from today's lesson please contact your teacher.