

Step 8: The Mean

Introduction

Complete the additions below.

$$\begin{array}{r} 7 \\ 1 \ ? \\ 6 \\ 4 \\ \hline ? \ 8 \end{array}$$

$$\begin{array}{r} 1 \ 6 \\ ? \ 3 \\ 3 \ 5 \\ 2 \ 5 \\ \hline 9 \ ? \end{array}$$

$$\begin{array}{r} 1 \ ? \ . \ 2 \\ 2 \ 1 \ . \ 6 \\ 5 \ . \ 1 \\ 3 \ 4 \ . \ 3 \\ \hline ? \ 2 \ . \ ? \end{array}$$

Complete the divisions below.

$$9 \ 8 \div ? = 1 \ 4$$

$$3 \ 6 \div 8 = 4 \ . \ ?$$

$$? \ 6 \div 8 = 9 \ . \ 5$$

$$6 \ 3 \div ? = 7$$

Introduction

Complete the additions below.

$$\begin{array}{r} 7 \\ 11 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ 6 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ 28 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ 23 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ 35 \\ \hline \end{array}$$

$$\begin{array}{r} 35 \\ 25 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ 99 \\ \hline \end{array}$$

$$\begin{array}{r} 11.2 \\ 21.6 \\ \hline \end{array}$$

$$\begin{array}{r} 21.6 \\ 5.1 \\ \hline \end{array}$$

$$\begin{array}{r} 5.1 \\ 34.3 \\ \hline \end{array}$$

$$\begin{array}{r} 34.3 \\ 72.2 \\ \hline \end{array}$$

Complete the divisions below.

$$98 \div 7 = 14$$

$$36 \div 8 = 4.5$$

$$76 \div 8 = 9.5$$

$$63 \div 9 = 7$$

Varied Fluency 1

Calculate the mean of these numbers.

77

14

58

9

13

21

Varied Fluency 1

Calculate the mean of these numbers.

77

14

58

9

13

21

$$(77 + 14 + 58 + 9 + 13 + 21) \div 6 = 32$$

Varied Fluency 2

Which is the correct mean of these children's house points.



17



19



21



15



13

16

17

18

Varied Fluency 2

Which is the correct mean of these children's house points.



17



19



21



15



13

16

17

18

Varied Fluency 3

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

6

11

17

24

9

53

Varied Fluency 3

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

6

11

17

24

9

53

False

$$(6 + 11 + 17 + 24 + 9 + 53) \div 6 = 20$$

Varied Fluency 4

Six friends weigh 71.5kg, 56.3kg, 70.1kg, 66.9kg, 58.7kg and 60.5kg.



What is their mean weight?

Varied Fluency 4

Six friends weigh 71.5kg, 56.3kg, 70.1kg, 66.9kg, 58.7kg and 60.5kg.



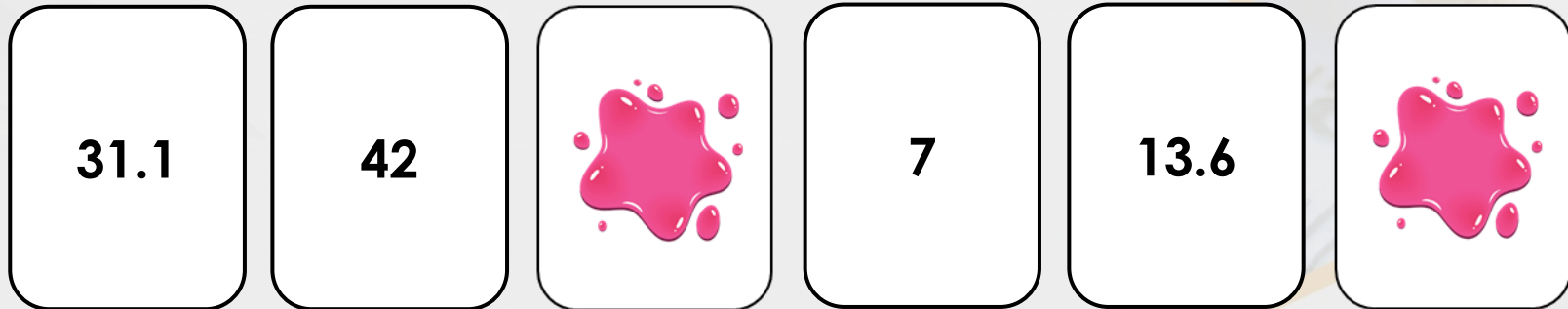
What is their mean weight?

$$(71.5 + 56.3 + 70.1 + 66.9 + 58.7 + 60.5) \div 6 =$$

64kg

Problem Solving 1

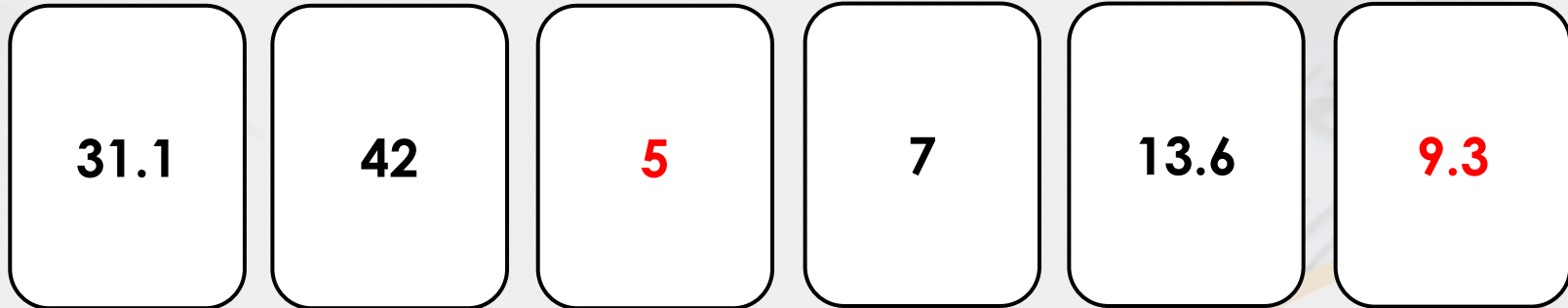
Leigh knows that the mean of his cards is 18.



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

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?

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?

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

$$\text{£}64 \div 4 = \text{£}16$$

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...**

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.