

Worked Examples

Statistics

Year 6

Instructions

A pupil has been given a set of questions to answer. They tried their best but think they have got some answers wrong.

Go through the work and check the answers. Help the pupil to understand their errors by explaining where they have gone wrong or how to find the correct answer (there are prompts below the questions to help you).

Note that you will not always be asked to provide the correct answer.

1

Find the mean of the following numbers:

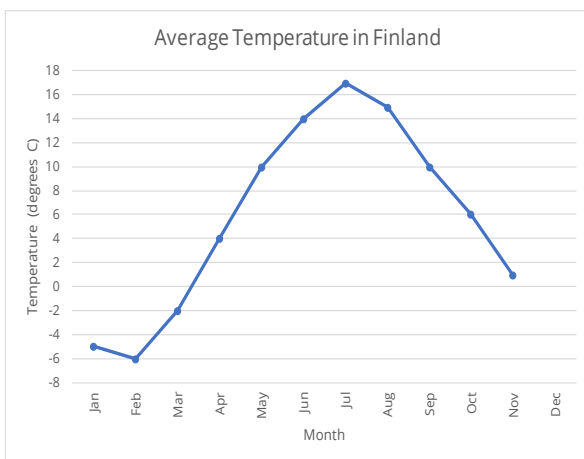
5, 7, 8, 8, 9

8

This answer is: Correct Incorrect

Explain how to find the mean.

2 What is the difference between the hottest and coldest months?



22

This answer is: Correct Incorrect
If incorrect, what should the answer be? Explain.

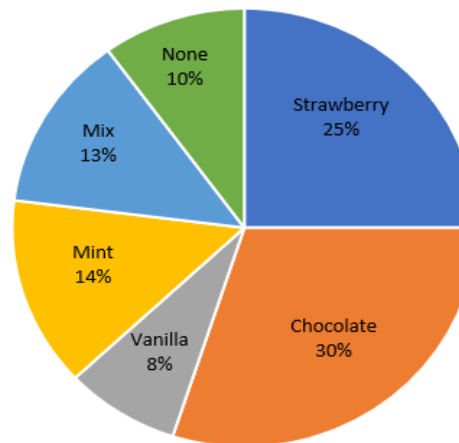
3 Using the graph, December was 5 degrees **colder** than March. What was the temperature in December?

-1°C

This answer is: Correct Incorrect
If incorrect, identify and explain the error.

4 200 people voted in total. How many people voted for 'strawberry'?

Votes for Favourite Flavours of Ice Cream



25

This answer is: Correct Incorrect
If incorrect, what should the answer be? Explain.

5 Using the pie chart, what **fraction** of people voted for mint, chocolate and none all together?

54

This answer is: Correct Incorrect
If incorrect, what should the answer be? Explain how you know.

Answers

Q no.	Question	Correct/ Incorrect	Error/ Additional Guidance
1	Find the mean of the following numbers: 5, 7, 8, 8, 9 8	Incorrect	The pupil does not know what the term 'mean' means. They have either picked the middle number or most frequent number as their answer (8). The mean is the general size of the data. It is calculated by adding all the values and dividing by the number of values. $\text{mean} = \frac{\sum \text{values}}{\text{number of values}}$ Correct answer - 7.4
2	What is the difference between the hottest and coldest months? 22	Incorrect	The pupil has misread the graph or misunderstood the scale on the y axis. They have read the hottest temperature (July) as 16°C not 17°C. This could indicate that the pupil does not understand that scales can increase in steps other than ones. Correct answer - 23
3	Using the graph, December was 5 degrees colder than March. What was the temperature in December? -1°C	Incorrect	The pupil has misread the graph. They have used the data for April to find their answer, not March. Correct answer - -7°C
4	200 people voted in total. How many people voted for 'strawberry'? 25	Incorrect	The pupil has not used all the information needed to find a solution. They have identified that 25% is important and assumed that this equates to 25 people. The pupil needed to identify that 200 people voted then work out 25% of 200. Correct answer - 50
5	Using the pie chart, what fraction of people voted for mint, chocolate and none all together? 54	Incorrect	The pupil has not read the question carefully. They have correctly identified the necessary information on the pie chart (mint - 14%, chocolate - 30% and none - 10%) and found the totals of these. They have not then converted this into a fraction. Correct answer - $\frac{54}{100}$ or $\frac{27}{50}$