Year 9 Statistics – Developing

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Year 9 · Maths · Statistics · Level 2 Developing · 10 questions

Name _____ **Date** _____

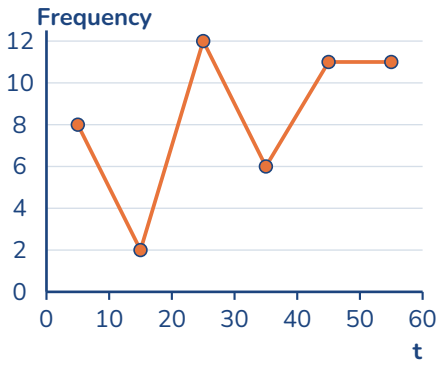
A. Use statistics

1. The back-to-back stem-and-leaf diagram shows the times, in seconds, that a group took to solve puzzles before and after practice (key: 3 | 2 | 5 means 23 for Before and 25 for After). Find the median and the range for each group, then compare the two groups.

Before	Stem	After
	3	2
9 7 5 1 0	4	0 1 1 2 2 5 8
7 7 3 3	5	3 6 6

Answer _____

2. The frequency polygon shows the times, t minutes, that some students spent reading in a week, grouped in classes $0 < t \leq 10$, $10 < t \leq 20$ and so on. Each point is plotted at a class midpoint. How many students are there? Estimate the mean.



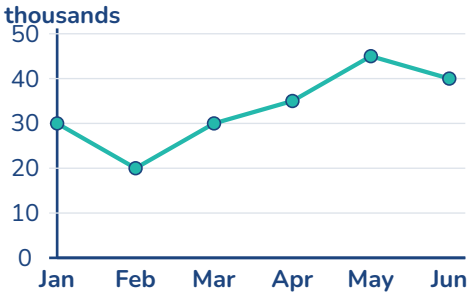
Answer _____

3. The table shows the masses of the lambs born on two farms. Estimate the mean for each group. Which group had heavier lambs on average?

Mass, m (kg)	Farm A	Farm B
$0 < m \leq 1$	6	1
$1 < m \leq 2$	7	4
$2 < m \leq 3$	4	8
$3 < m \leq 4$	3	12

Answer _____

4. The time series graph shows the number of visitors to a museum each month, in thousands. Between which two months was the biggest fall? Find the percentage change from January to June and describe the overall trend.



Answer _____

5. Gus predicts that taller students have longer arm spans. What data should Gus collect, what type of data is it, and how could it be collected?

Answer _____

6. To find out what residents think of a new skate park, a council asks people outside a skateboard shop. Explain why the results may be biased. Suggest a better method and one further question to investigate.

Answer _____

7. The table shows the times that 25 students spent on homework last night. Write down the modal class and estimate the mean.

Time, t (minutes)	Frequency
$0 < t \leq 10$	11
$10 < t \leq 20$	2
$20 < t \leq 30$	2
$30 < t \leq 40$	10

Answer _____

8. The two-way table shows what 102 students chose for lunch. Some values are missing. How many girls chose salad?

	Pasta	Salad	Soup	Total
Boys	19	?	18	47
Girls	19	?	?	?
Total	38	22	42	102

Answer _____

9. A bar chart comparing two shops' sales has a vertical axis that starts at 90 instead of 0, so one bar looks five times as tall as the other. Explain why this is misleading.

Answer _____

10. In a group, 23 people like French, 11 like Spanish and 8 like both. Everyone likes at least one of them. Jade says there are 34 people in the group. Explain the mistake and find the correct number.

Answer _____