Year 9 Statistics – Mixed Practice

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Year 9 · Maths · Statistics · Mixed practice · 30 questions

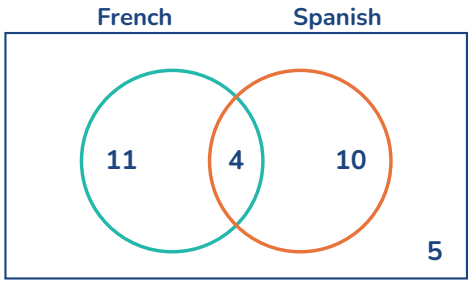
Name _____ **Date** _____

A. Mixed practice (mixed order)

1. Data is collected on the shoe size of each player in a team. Is the data qualitative or quantitative? Is it categorical, discrete or continuous?

Answer _____

2. The Venn diagram shows which students in a group study French and which study Spanish. How many students are in the group? How many study exactly one of the two?



Answer _____

3. Data is collected on the height of each sunflower in a garden. Is the data qualitative or quantitative? Is it categorical, discrete or continuous?

Answer _____

4. The two-way table shows what 76 visitors bought to drink at a café. Some values are missing. How many children bought juice?

	Tea	Coffee	Juice	Total
Adults	19	21	?	54
Children	6	?	?	?
Total	25	33	18	76

Answer _____

5. Data is collected on the length of each phone call made from an office. Is the data qualitative or quantitative? Is it categorical, discrete or continuous?

Answer _____

6. The two-way table shows what 96 visitors bought to drink at a café. Some values are missing. How many children bought coffee?

	Tea	Coffee	Juice	Total
Adults	6	?	22	49
Children	10	?	?	?
Total	16	37	43	96

Answer _____

7. Data is collected on the volume of water in each bottle on a shelf. Is the data qualitative or quantitative? Is it categorical, discrete or continuous?

Answer _____

8. The table shows the masses of 50 parcels at a post office. Write down the modal class and estimate the mean.

Mass, m (kg)	Frequency
$2 < m \leq 4$	6
$4 < m \leq 6$	14
$6 < m \leq 8$	6
$8 < m \leq 10$	13
$10 < m \leq 12$	11

Answer _____

9. Data is collected on the country of birth of each member of a club. Is the data qualitative or quantitative? Is it categorical, discrete or continuous?

Answer _____

10. Times (minutes), with frequencies: $0 < t \leq 10$: 3; $10 < t \leq 20$: 5; $20 < t \leq 30$: 9; $30 < t \leq 40$: 8. Amir works out the sum of midpoint × frequency as 595 and divides by 4, the number of classes. Explain the mistake and estimate the mean correctly.

Answer _____

11. Data is collected on the number of pets in each household on a street. Is the data qualitative or quantitative? Is it categorical, discrete or continuous?

Answer _____

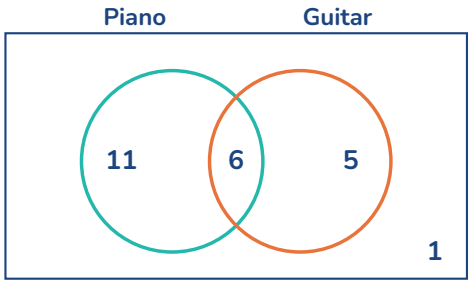
12. Amir says shoe size is continuous data. Is Amir right? Explain.

Answer _____

13. Data is collected on the mass of each newborn lamb on a farm. Is the data qualitative or quantitative? Is it categorical, discrete or continuous?

Answer _____

14. The Venn diagram shows which students in a group play the piano and which play the guitar. How many students are in the group? How many play exactly one of the two?



Answer _____

15. Which representation would you choose to show how many boys and how many girls in a year group chose each lunch option? Explain why.

Answer _____

16. Data is collected on the favourite subject of each student in a class. Is the data qualitative or quantitative? Is it categorical, discrete or continuous?

Answer _____

17. 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
$0 < t \leq 10$	9
$10 < t \leq 20$	5
$20 < t \leq 30$	1
$30 < t \leq 40$	6
$40 < t \leq 50$	4

Answer _____

18. The back-to-back stem-and-leaf diagram shows the points scored by two basketball teams in their matches (key: 3 | 2 | 5 means 23 for Team X and 25 for Team Y). Find the median and the range for each group, then compare the two groups.

Team X	Stem	Team Y
7 5 4	4	6 7 8
8 3 2 0	5	6
2 2 1	6	0 1 4 5 6
3	7	

Answer _____

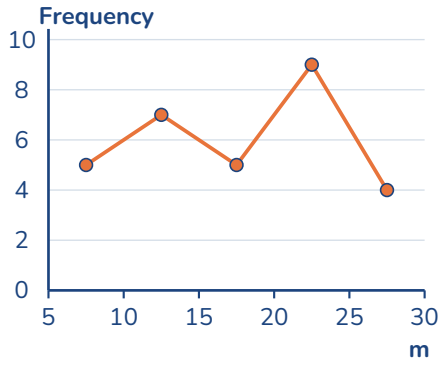
19. A line graph of a company's profits shows only the three months when profits rose, leaving out the rest of the year. Explain why this is misleading.

Answer _____

20. Kofi predicts that more people use the bus than the car to get to the town centre. What data should Kofi collect, what type of data is it, and how could it be collected?

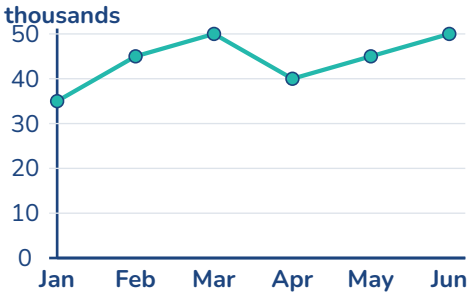
Answer _____

21. The frequency polygon shows the masses, m kg, of some suitcases at an airport, grouped in classes $5 < m \leq 10$, $10 < m \leq 15$ and so on. Each point is plotted at a class midpoint. How many suitcases are there? Estimate the mean.



Answer _____

22. 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.



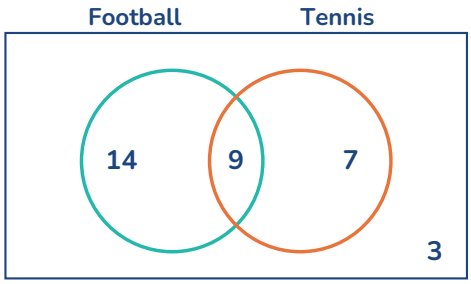
Answer _____

23. The two-way table shows what 63 students chose for lunch. Some values are missing. How many girls chose salad?

	Pasta	Salad	Soup	Total
Boys	25	?	11	41
Girls	4	?	?	?
Total	29	12	22	63

Answer _____

24. The Venn diagram shows which students in a group play football and which play tennis. How many students are in the group? How many play exactly one of the two?



Answer _____

25. Data is collected on the number of brothers and sisters each student has. Is the data qualitative or quantitative? Is it categorical, discrete or continuous?

Answer _____

26. Eli says a very large sample cannot be biased. Is Eli right? Explain.

Answer _____

27. Which representation would you choose to show key facts about a school's energy use, presented to parents in a quick, eye-catching way? Explain why.

Answer _____

28. The table shows the heights of plants grown with two different feeds. Estimate the mean for each group. Which group gave taller plants on average?

Height, h (cm)	Feed A	Feed B
$20 < h \leq 30$	14	7
$30 < h \leq 40$	2	14
$40 < h \leq 50$	3	8
$50 < h \leq 60$	1	11

Answer _____

29. In a group, 22 people like tea, 20 like coffee and 4 like both. Everyone likes at least one of them. Gus says there are 42 people in the group. Explain the mistake and find the correct number.

Answer _____

30. A website asks its readers to vote online on whether teenagers read enough books. Explain why the results may be biased. Suggest a better method and one further question to investigate.

Answer _____