KIDSLEARN MATH · PRACTICE ASSIGNMENT

Statistics

Name: Date: Score: / 50

Mean = sum ÷ count. Median = the middle value once the data are sorted (average the two middle values if there is an even number). Mode = the most common value. Range = largest − smallest. Read chart scales carefully. Answers are at the end.

Part A — Warm-up

1. Find the mean of these ages of the children at a party: 10, 6, 14, 8, 14, 6, 12.

2. Find the mean of these test scores: 58, 59, 89, 97, 68, 91.

3. Find the mean of these ages of the children at a party: 13, 7, 9, 7, 9, 9.

4. Find the mean of these goals scored in each match: 5, 5, 1, 1.

5. Find the median of these ages of the children at a party: 6, 14, 8, 14, 6, 9, 10.

6. Find the median of these numbers of pages read each day: 15, 8, 37, 18, 12, 27.

7. Find the median of these numbers of pages read each day: 39, 19, 15, 24, 16, 34, 12.

8. Find the median of these prices of some books ($): 15, 5, 12, 6, 20.

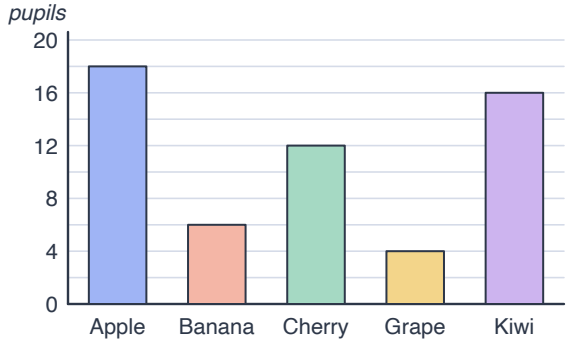
9. Find the range of these numbers of push-ups done: 10, 33, 10, 27, 22, 11, 27.

10. Find the range of these daily high temperatures (°C): 12, 34, 20, 28, 24, 28, 20.

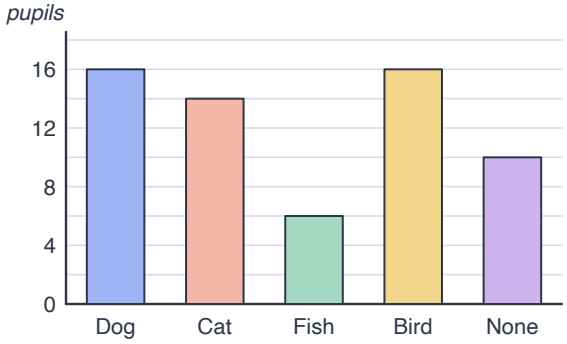
11. Find the range of these test scores: 76, 80, 92, 95, 71, 95.

12. Find the mode of these prices of some books ($): 9, 20, 17, 19, 10, 4, 10.

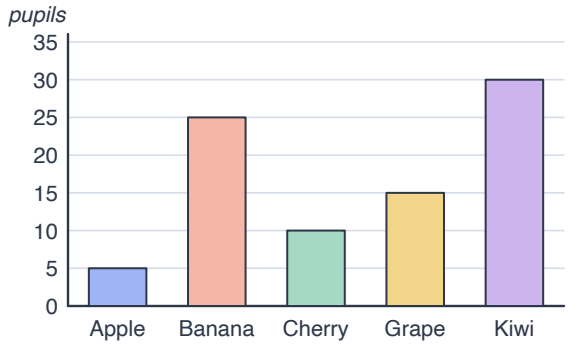
13. The bar chart shows the favourite fruit of some pupils. How many more pupils does the Kiwi bar show than the Banana bar?



14. The bar chart shows the main pet of each pupil in a year group. How many pupils have a cat?



15. The bar chart shows the favourite fruit of some pupils. What value does the tallest bar show?



Part B — Core practice

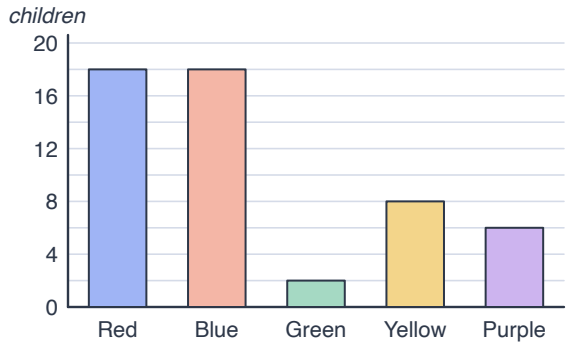
16. Find the mean of these numbers of push-ups done: 34, 21, 16, 35.

17. Find the mean of these numbers of pages read each day: 28, 15, 39, 23, 22, 21, 19, 35, 36, 26.

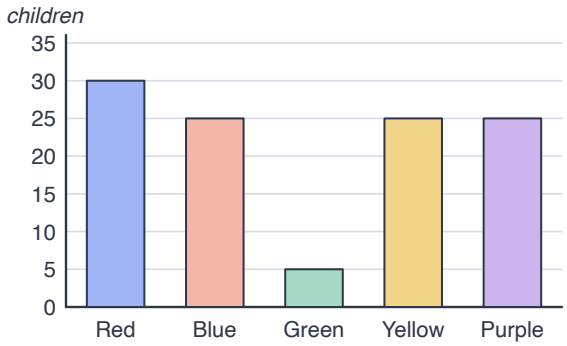
18. Find the mean of these heights of some plants (cm): 13, 18, 36, 42, 42.

19. Find the mean of these test scores: 98, 82, 67, 80, 74, 61, 65, 71, 71, 92.

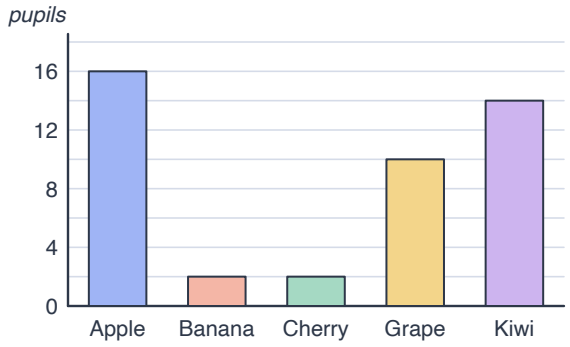
20. The bar chart shows the favourite colour of some children. How many children are shown altogether?



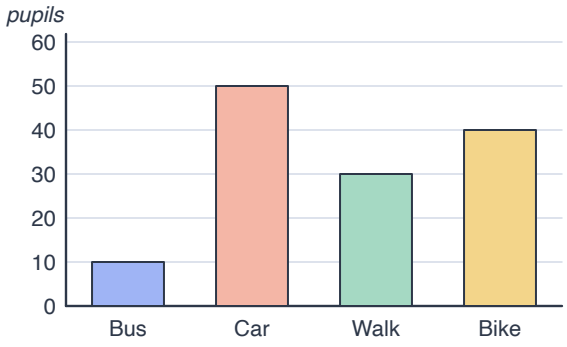
21. The bar chart shows the favourite colour of some children. What is the mean number of children per bar?



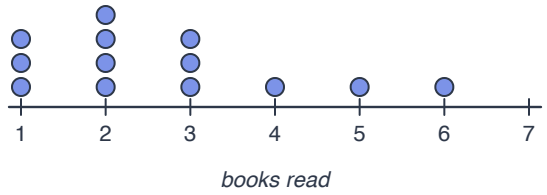
22. The bar chart shows the favourite fruit of some pupils. How many pupils are shown altogether?



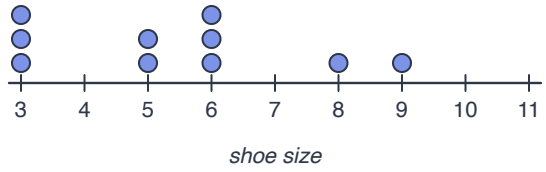
23. The bar chart shows how some pupils travel to school. How many pupils are shown altogether?



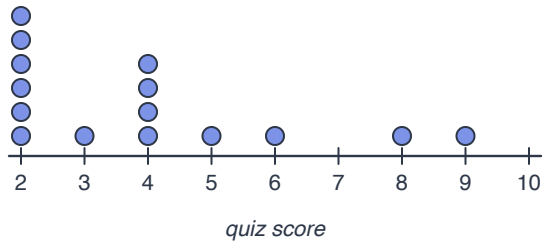
24. The dot plot shows the number of books each pupil read last month. Each dot is one pupil. What is the median?



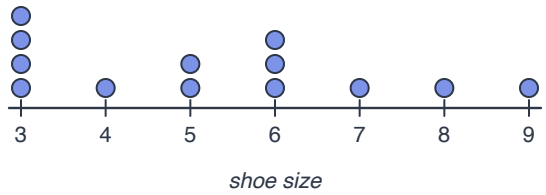
25. The dot plot shows the shoe sizes of a group of children. Each dot is one child. What is the range?



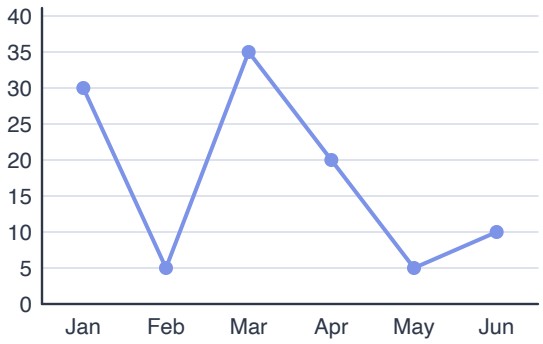
26. The dot plot shows the scores (out of 10) on a quiz. Each dot is one pupil. What is the median?



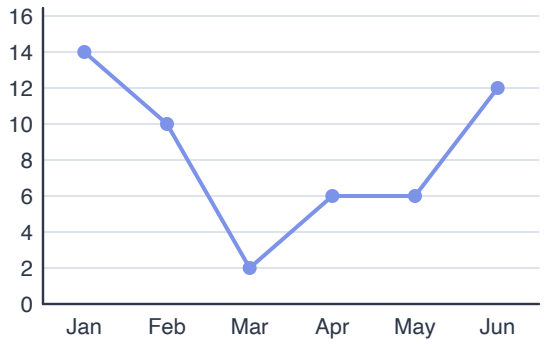
27. The dot plot shows the shoe sizes of a group of children. Each dot is one child. How many have a value of 5 or more?



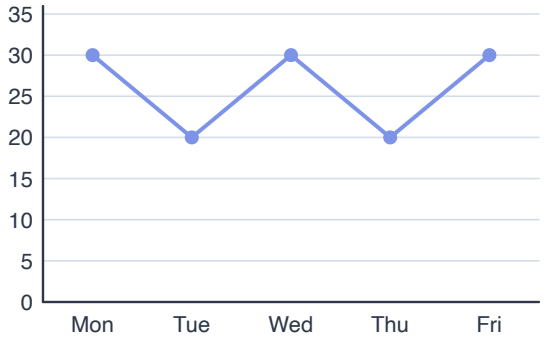
28. The line graph shows how many centimetres of rain fell each month. What is the range of the values shown?



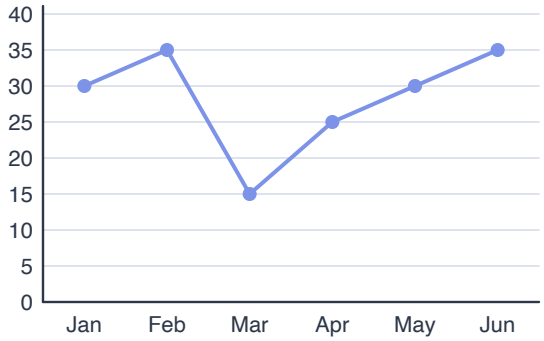
29. The line graph shows how many bikes a shop sold each month. What is the range of the values shown?



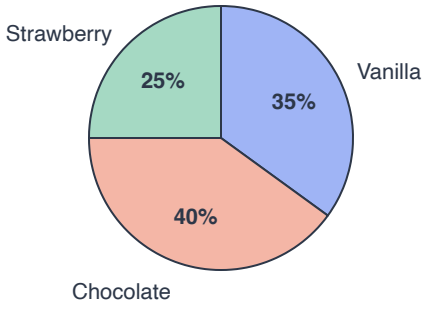
30. The line graph shows the noon temperature (°C) each day. What was the value for Tue?



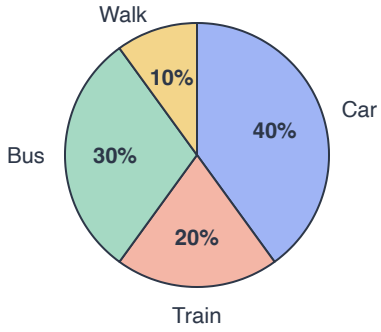
31. The line graph shows how many centimetres of rain fell each month. What was the biggest increase from one month to the next?



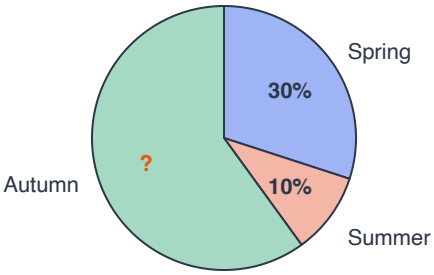
32. 500 people were asked their favourite ice-cream flavour. How many chose Vanilla?



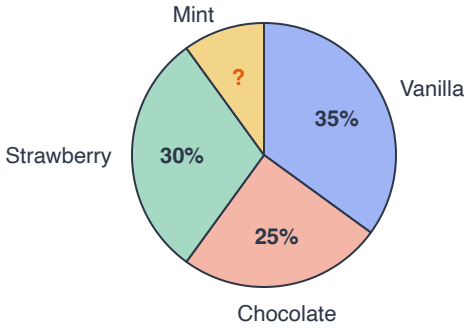
33. 20 people were asked their way to get to work. How many chose Car?



34. The pie chart shows people's favourite season. What percentage chose Autumn?



35. The pie chart shows people's favourite ice-cream flavour. What percentage chose Mint?



36. These are minutes spent on homework: 121, 45, 45, 44, 40, 28. The value 121 is an outlier. What happens to the mean if 121 is removed?

(A) It goes up (B) It goes down

(C) It stays the same

37. These are prices of lunch ($): 12, 11, 8, 9, 56, 6, 8. The value 56 is an outlier. What happens to the mean if 56 is removed?

(A) It goes down (B) It goes up

(C) It stays the same

38. These are times to run 100 m (seconds): 15, 20, 54, 16, 15, 15. The value 54 is an outlier. What happens to the median if 54 is removed?

(A) It goes down (B) It stays the same

(C) It goes up

Part C — Challenge

39. The mean of 4 numbers is 20. 3 of them are 22, 17, 9. What is the other number?

40. The mean of 5 numbers is 16. 4 of them are 15, 24, 12, 14. What is the other number?

41. Mia's first 3 test scores are 64, 64, 77. What must she score on the next test to make her mean exactly 75?

42. Mia's first 3 test scores are 91, 78, 93. What must she score on the next test to make her mean exactly 85?

43. Team Red has 24 pupils with a mean test score of 89. Team Blue has 12 pupils with a mean score of 95. What is the mean score of all 36 pupils together?

44. Class A has 9 pupils with a mean test score of 51. Class B has 6 pupils with a mean score of 61. What is the mean score of all 15 pupils together?

45. Class A has 7 pupils with a mean test score of 90. Class B has 28 pupils with a mean score of 65. What is the mean score of all 35 pupils together?

46. The mean score of all 37 pupils is 57. Team Red (30 pupils) had a mean of 50. What was the mean of the other 7 pupils?

47. Which set of numbers has a mean of 7, a median of 8 and a mode of 8?

(A) 3, 4, 8, 8, 11 (B) 4, 8, 8, 8, 9

(C) 4, 5, 8, 8, 13 (D) 4, 5, 8, 8, 10

48. Which set of numbers has a mean of 4, a median of 3 and a mode of 3?

(A) 2, 3, 3, 5, 9 (B) 2, 3, 3, 5, 7

(C) 2, 3, 3, 5, 10 (D) 1, 3, 3, 5, 7

49. Which set of numbers has a mean of 10, a median of 11 and a mode of 11?

(A) 1, 11, 11, 13, 14 (B) 0, 11, 11, 13, 14

(C) 1, 11, 11, 12, 14 (D) 1, 11, 11, 15, 17

50. Which set of numbers has a mean of 7, a median of 7 and a mode of 3?

(A) 3, 3, 7, 12, 13 (B) 3, 5, 7, 8, 12

(C) 3, 3, 7, 10, 12 (D) 1, 6, 7, 8, 13

Answer Key — Statistics

1. 10
Sum $= 70$, count $= 7$. Mean $= 70 \div 7 = 10$.

2. 77
Sum $= 462$, count $= 6$. Mean $= 462 \div 6 = 77$.

3. 9
Sum $= 54$, count $= 6$. Mean $= 54 \div 6 = 9$.

4. 3
Sum $= 12$, count $= 4$. Mean $= 12 \div 4 = 3$.

5. 9
Sorted: 6, 6, 8, 9, 10, 14, 14. The middle (4th) value is 9.

6. 16.5
Sorted: 8, 12, 15, 18, 27, 37. The two middle values are 15 and 18, so the median is $(15 + 18) \div 2 = 16.5$.

7. 19
Sorted: 12, 15, 16, 19, 24, 34, 39. The middle (4th) value is 19.

8. **$**12**
Sorted: 5, 6, 12, 15, 20. The middle (3th) value is 12.

9. 23
Largest − smallest $= 33 - 10 = 23$.

10. **22 °C**
Largest − smallest $= 34 - 12 = 22$.

11. 24
Largest − smallest $= 95 - 71 = 24$.

12. **$**10**
10 appears 2 times, more than any other value.

13. 10
$16 - 6 = 10$.

14. 14
The Cat bar reaches 14 on the scale (each gridline is 2).

15. 30
The tallest bar is Kiwi, at 30.

16. 26.5
Sum $= 106$, count $= 4$. Mean $= 106 \div 4 = 26.5$.

17. 26.4
Sum $= 264$, count $= 10$. Mean $= 264 \div 10 = 26.4$.

18. **30.2 cm**
Sum $= 151$, count $= 5$. Mean $= 151 \div 5 = 30.2$.

19. 76.1
Sum $= 761$, count $= 10$. Mean $= 761 \div 10 = 76.1$.

20. 52
Add the bars: $18 + 18 + 2 + 8 + 6 = 52$.

21. 22
Total $= 110$, and there are 5 bars: $110 \div 5 = 22$.

22. 44
Add the bars: $16 + 2 + 2 + 10 + 14 = 44$.

23. 130
Add the bars: $10 + 50 + 30 + 40 = 130$.

24. 2
There are 13 dots. The middle one is the 7th, counting from the left: median $= 2$.

25. 6
$9 - 3 = 6$.

26. 4
There are 15 dots. The middle one is the 8th, counting from the left: median $= 4$.

27. 8
Count the dots at 5 and above: 8.

28. **30 cm**
Highest − lowest $= 35 - 5 = 30$.

29. 12
Highest − lowest $= 14 - 2 = 12$.

30. **20 °C**
The point above Tue is at 20 on the scale.

31. **10 cm**
The steepest rise is from Mar to Apr: 25 − 15 = 10.

32. 175
35% of $500 = 0.35 \times 500 = 175$.

33. 8
40% of $20 = 0.4 \times 20 = 8$.

34. **60%**
The whole pie is 100%: $100 - 30 - 10 = 60\%$.

35. **10%**
The whole pie is 100%: $100 - 35 - 25 - 30 = 10\%$.

36. **(B) It goes down**
Mean with it: 53.83; without it: 40.4. An outlier pulls the mean towards it.

37. **(A) It goes down**
Mean with it: 15.71; without it: 9. An outlier pulls the mean towards it.

38. **(A) It goes down**
Median with it: 15.5; without it: 15. The median hardly moves — it is not affected much by outliers.

39. 32
Total $= 4 \times 20 = 80$. Known numbers add to 48, so the other is $80 - 48 = 32$.

40. 15
Total $= 5 \times 16 = 80$. Known numbers add to 65, so the other is $80 - 65 = 15$.

41. 95
She needs a total of $4 \times 75 = 300$. She has 205, so she needs $300 - 205 = 95$.

42. 78
She needs a total of $4 \times 85 = 340$. She has 262, so she needs $340 - 262 = 78$.

43. 91
Totals: $24 \times 89 = 2136$ and $12 \times 95 = 1140$. Mean $= 3276 \div 36 = 91$. (Not just the average of 89 and 95!)

44. 55
Totals: $9 \times 51 = 459$ and $6 \times 61 = 366$. Mean $= 825 \div 15 = 55$. (Not just the average of 51 and 61!)

45. 70
Totals: $7 \times 90 = 630$ and $28 \times 65 = 1820$. Mean $= 2450 \div 35 = 70$. (Not just the average of 90 and 65!)

46. 87
All together: $37 \times 57 = 2109$. Team Red: $30 \times 50 = 1500$. The rest: $(2109 - 1500) \div 7 = 87$.

47. **(D) 4, 5, 8, 8, 10**
For 4, 5, 8, 8, 10: sum $= 35$, mean $= 35 \div 5 = 7$; the middle value is 8; 8 appears most often. Each other set breaks one of the three conditions.

48. **(B) 2, 3, 3, 5, 7**
For 2, 3, 3, 5, 7: sum $= 20$, mean $= 20 \div 5 = 4$; the middle value is 3; 3 appears most often. Each other set breaks one of the three conditions.

49. **(A) 1, 11, 11, 13, 14**
For 1, 11, 11, 13, 14: sum $= 50$, mean $= 50 \div 5 = 10$; the middle value is 11; 11 appears most often. Each other set breaks one of the three conditions.

50. **(C) 3, 3, 7, 10, 12**
For 3, 3, 7, 10, 12: sum $= 35$, mean $= 35 \div 5 = 7$; the middle value is 7; 3 appears most often. Each other set breaks one of the three conditions.