Steady Steps Maths

FREE UNIT TEST · TOPIC 11

FREE SAMPLE · UNIT TEST A

Statistics

Unit Test A · 40 marks · about 40 minutes

GRADE 6



Common Core 6.SP.A.1–3, 6.SP.B.4–5

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Name _____ Date _____

UNIT TEST A

Statistics

40 marks · about 40 minutes · Common Core 6.SP.A.1–3, 6.SP.B.4–5

Name _____ **Date** _____

Instructions

- Answer **every** question in the space given.
- Show your working: in Sections B and C you get marks for your method, even if the final answer is wrong.
- The number in brackets, like [2], shows how many marks a question is worth.
- You have about 40 minutes. A calculator is **not** needed.
- Check your answers if you finish early.

Your score

Section	Questions	Marks	Your score
A · Quick questions	1–10	10	
B · Show your working	11–16	17	
C · Problem solving	17–18	13	
Total		**40**	

Percentage: _____ % 85%+ excellent · 65–84% good · 45–64% keep practising · below 45% revise the packs first

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SECTION A Quick questions

1 mark each · write your answer in the box

1. Is this a statistical question? Write yes or no: “How tall is the school gate?” [1]

Answer

2. Find the mean of 4, 12, 14, 10, 10. [1]

Answer

3. Find the median of 3, 20, 13, 29, 18, 8, 17. [1]

Answer

4. Find the mode of 4, 3, 3, 11, 3, 6. [1]

Answer

5. Find the range of 22, 18, 27, 45, 5, 55. [1]

Answer

6. A box plot has Q1 = 14 and Q3 = 35. What is the IQR? [1]

Answer

7. About what fraction of the data lies inside the box of a box plot? [1]

Answer

8. Which value is an outlier? 11, 13, 16, 17, 19, 61 [1]

Answer

9. Which display shows every single value: a dot plot or a histogram? [1]

Answer

10. The mean of 20, 19, 19 and one more number is 17. What is the missing number? [1]

Answer

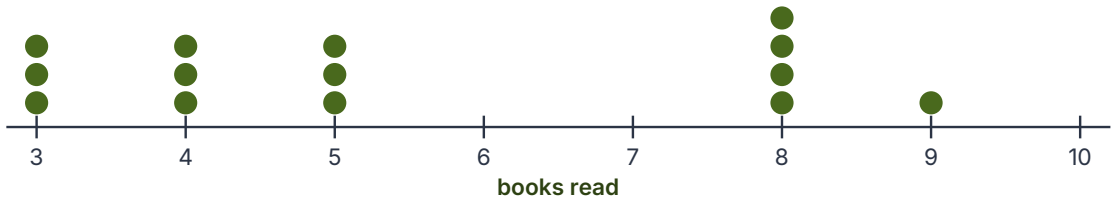
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SECTION B Show your working

Marks are given for your method

11 The dot plot shows the number of books read by some students. [3]
(a) How many students are shown? (b) What is the mode? (c) What is the median?



Answer

12 Find the mean absolute deviation (MAD) of 3, 14, 3, 3, 2. [3]

Answer

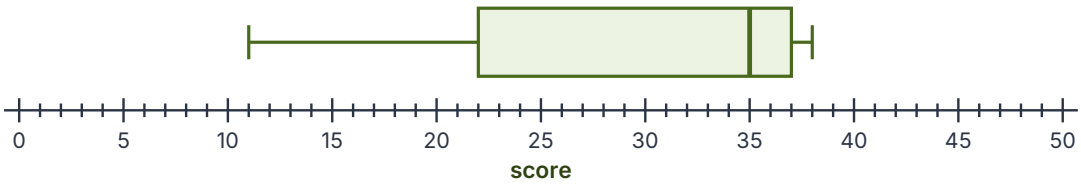
13 Find the five-number summary of 10, 21, 43, 45, 47, 55, 56. [3]

Answer

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14 Read the box plot. (a) What is the median? (b) What is the range? (c) What is the IQR? [3]



Answer

15 For the data 11, 13, 16, 19, 78: (a) find the mean and the median. (b) Which is the better "typical" value? Why? [3]

Answer

16 Rewrite "How many pets do I have?" so that it is a statistical question. Explain why yours is statistical. [2]

Answer

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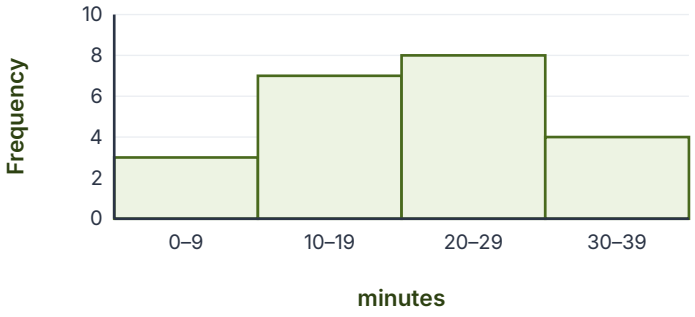
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SECTION C Problem solving

Longer questions with several steps

17 The histogram shows how many minutes some students spent reading last night. [7]

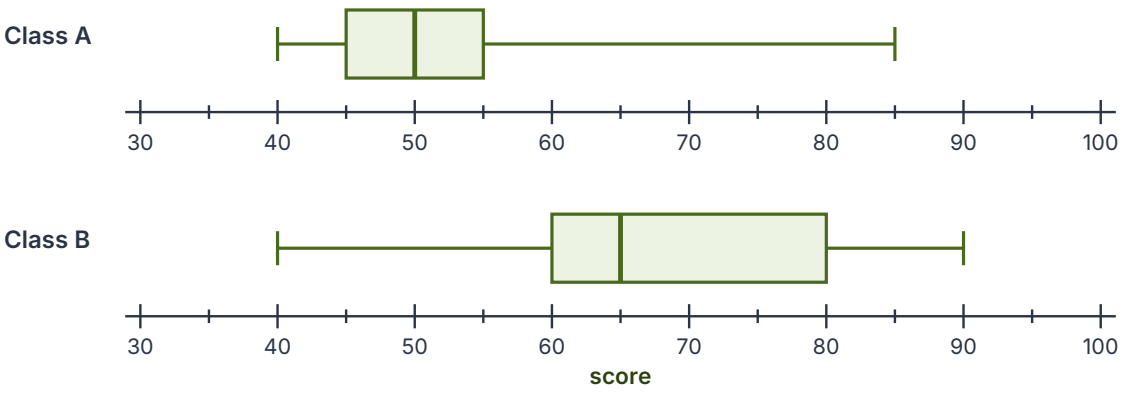
(a) How many students are shown? (b) Which interval has the most students?
(c) How many students read for 20 minutes or more? (d) Can you tell the exact median from the histogram? Explain.



Answer

18 The box plots show test scores for two classes. [6]

(a) Which class has the higher median? (b) Which class has the larger IQR?
(c) Which class's scores are more consistent? Explain.



Answer

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Mark scheme

For parents · give the marks shown; method marks can be given even if the final answer is wrong

Tip: Give method marks generously when the working shows the right idea. If a mistake early on is carried through correctly, give the later marks.

Q	Answer	Marks	How to award the marks
1	no	1	One fixed answer → not statistical.
2	10	1	
3	17	1	Order first.
4	3	1	
5	50	1	
6	21	1	
7	one half (50%)	1	
8	61	1	
9	a dot plot	1	
10	10	1	17 × 4 − (20 + 19 + 19).
11	(a) 14 (b) 8 (c) 5	3	1 mark each.
12	3.6	3	1 mark for the mean (5); 1 mark for the distances (2, 9, 2, 2, 3); 1 mark for the MAD.
13	10, 21, 45, 55, 56	3	1 mark for the median; 1 mark for Q1 and Q3; 1 mark for min and max.
14	(a) 35 (b) 27 (c) 15	3	1 mark each.
15	(a) mean 27.4, median 16 (b) the median: 78 is an outlier	3	(a) 1 mark each. (b) 1 mark with a reason.
16	e.g. “How many pets do the students in my class have?”; the answers will vary	2	1 mark for the question; 1 mark for the explanation.
17	(a) 22 (b) 20–29 (c) 12 (d) no: only which interval it is in	7	(a) 2 marks. (b) 1 mark. (c) 2 marks: 1 for adding the right bars. (d) 2 marks: 1 for no, 1 for the reason.
18	(a) Class B (b) Class B (IQR: A 10, B 20) (c) Class A: smaller IQR	6	(a) 2 marks. (b) 2 marks: 1 for working out both IQRs. (c) 2 marks: 1 for the class, 1 for using the IQR.

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What to revise

Circle the questions your child lost marks on, then go back to the matching part of the pack

Questions	Skill	Revise in	✓ / ×
1	Statistical questions	Pack 1 · Statistical Questions, Part 1	
2, 10	The mean	Pack 2 · Mean, Median & Mode, Part 1	
3, 4	Median	Pack 2 · Mean, Median & Mode, Part 2	
5	Range	Pack 1 · Statistical Questions, Part 3	
6, 13	IQR	Pack 4 · Box Plots & Spread, Part 1	
7, 14	Reading box plots	Pack 4 · Box Plots & Spread, Part 2	
8, 15	Outliers	Pack 2 · Mean, Median & Mode, Part 4	
9, 11	Dot plots and histograms	Pack 3 · Dot Plots & Histograms, Part 1	
12	Mean absolute deviation	Pack 2 · Mean, Median & Mode, Part 3	
16	Statistical questions	Pack 1 · Statistical Questions, Part 2	
17	Reading histograms	Pack 3 · Dot Plots & Histograms, Part 3	
18	Comparing box plots	Pack 4 · Box Plots & Spread, Part 4	

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