Year 9 Statistics – Foundation

ANSWER KEY HappyKids.fit

Answers and worked solutions · 10 questions

A. Data skills

1. qualitative, categorical

It is described in words or categories, not numbers

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It is described in words or categories, not numbers

3. quantitative, discrete

It is counted, so it can only take separate values

4. modal class $0 < t \leq 10$; estimated mean 19.25 minutes

Midpoints: 5, 15, 25, 35

Sum of midpoint × frequency: $5 \times 13 + 15 \times 8 + 25 \times 8 + 35 \times 11 = 770$

Estimated mean = $770 \div 40 = 19.25$ minutes

Modal class: the highest frequency is 13

5. the median is in the class $20 < a \leq 40$; estimated mean 40.5 years

Midpoints: 10, 30, 50, 70

Sum of midpoint × frequency: $10 \times 11 + 30 \times 10 + 50 \times 6 + 70 \times 13 = 1620$

Estimated mean = $1620 \div 40 = 40.5$ years

The median is the 20th and 21st values: running totals of the frequencies

6. 30 students; 20 own exactly one

Total: $7 + 6 + 13 + 4 = 30$

Exactly one: $7 + 13 = 20$ (not the 6 in the overlap)

7. 17 girls

Boys, Soup: $58 - 16 - 24 = 18$

Girls, Soup: $35 - 18 = 17$

8. 11 children

Adults, Coffee: $56 - 20 - 13 = 23$

Children, Coffee: $34 - 23 = 11$

9. modal class $0 < t \leq 10$; estimated mean 18 minutes

Read the frequencies: 11, 10, 1, 5, 3 (total 30)

Midpoints: 5, 15, 25, 35, 45

Estimated mean = $(5 \times 11 + 15 \times 10 + 25 \times 1 + 35 \times 5 + 45 \times 3) \div 30 = 18$ minutes

10. frequency polygons drawn on the same axes: two polygons on one grid make the distributions easy to compare.

Choose: frequency polygons drawn on the same axes

Because two polygons on one grid make the distributions easy to compare