

# MATHEMATICS QUESTIONS BY TOPICS



## DATA ANALYSIS

**50 Multiple Choice Questions with curriculum references and detailed answers**

- Click here for the question index
- Click here for the answer index
- Scan or click the QR codes for more information

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## Mathematics Questions by Topics

### Data Analysis – Multiple Choice

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### Index – Click on the question. ACR = Australian Curriculum Reference

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2	median	ACMEM050	27	time series	ACMGM089
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23	residual analysis	ACMEM058	48	stem and leaf plot	ACMGM029
24	stem plots	ACMEM057	49	box plots	ACMEM059
25	least squares line	ACMEM142	50	parallel box plots	ACMEM045

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**About the Authors:** William Paul Healy BSc BA Dip Ed and Barbara Clarice Healy BSc BEd are experienced mathematics and science teachers each with more than 30 years classroom experience. As principal writers for Kilbaha Education they bring a wealth of pedagogical knowledge and expertise to their many publications. The quality of their work has been demonstrated over the years with content written for the VCE examinations in Victoria Australia.

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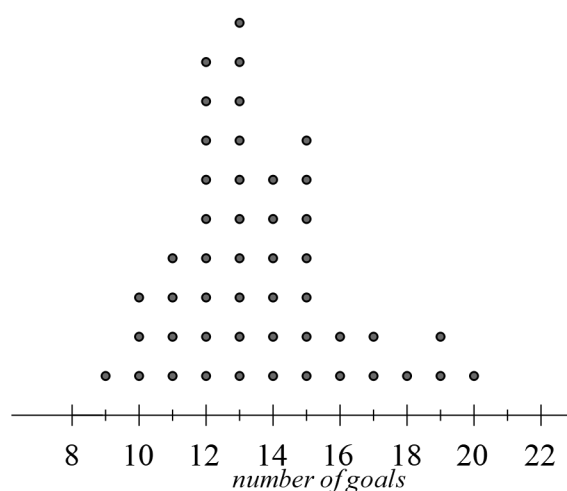
### Mathematics Questions by Topics

Data Analysis – Multiple Choice

Question 1

Source: K21FM1Q1

The dot plot below shows the number of goals kicked by the Warburn football team each game over a series of 48 games.



The number of games in which Warburn scored more than 17 goals is

- A. 3
- B. 1
- C. 5
- D. 4
- E. 6

Curriculum	Subject	Topic	Description
Australia	Essential Mathematics Unit 2	Data presentation	display numerical data as frequency distributions, dot plots (ACMEM046)
Victoria	General Mathematics Unit 1, Units 3 and 4	Data Analysis	representation, display and description of the distributions of numerical variables: dot plots
New South Wales	Mathematics Standard Stage 6	Data Analysis	classifying and representing data: dot plots

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### Mathematics Questions by Topics

Data Analysis – Multiple Choice

Question 50

Source: K17FM1Q7

Ken wants to display the results of the number of goals kicked in the last season by three teams, the *Mutants*, the *Phantoms* and the *Dodgers*.

What is the best display for him to use?

- A. a back-to-back stem and leaf
- B. a scatter plot
- C. a dot plot
- D. a time series
- E. parallel box plots

Curriculum	Subject	Topic	Description
Australia	Essential Mathematics Unit 2	Data presentation	display categorical data in tables and column graphs (ACMEM045) display numerical data as frequency distributions, dot plots, stem and leaf plots, and histograms (ACMEM046)
Victoria	General Mathematics Units 3 and 4	Data Analysis	representation, display and description of the distributions of categorical variables: data tables, two-way frequency tables and their associated segmented bar charts representation, display and description of the distributions of numerical variables: dot plots, stem plots, histograms;
New South Wales	Mathematics Standard Stage 6	Classifying and representing data	compare the suitability of different methods of data presentation

**End of  
MATHEMATICS QUESTIONS BY TOPICS  
DATA ANALYSIS  
50 Multiple Choice Questions**

# MATHEMATICS QUESTIONS BY TOPICS



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## DATA ANALYSIS

**Answers to 50 Multiple Choice Questions**

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## Mathematics Questions by Topics

### Data Analysis – Multiple Choice Summary of Answers

Q	Answer	Q	Answer
1	D	26	C
2	B	27	D
3	D	28	C
4	A	29	B
5	E	30	B
6	B	31	C
7	A	32	E
8	D	33	D
9	C	34	B
10	B	35	A
11	E	36	E
12	C	37	B
13	A	38	D
14	E	39	D
15	D	40	B
16	C	41	A
17	B	42	C
18	D	43	A
19	D	44	C
20	D	45	E
21	A	46	C
22	B	47	D
23	E	48	C
24	B	49	D
25	C	50	E

Distribution:      A 7                      B 11                      C 11                      D 13                      E 8

## Mathematics Questions by Topics

### Data Analysis – Multiple Choice

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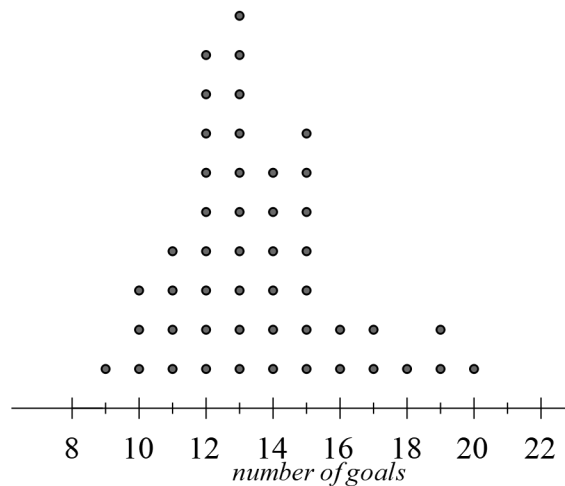
### Mathematics Questions by Topics

Data Analysis – Multiple Choice

Answer 1

Source: K21FM1S1

The dot plot below shows the number of goals kicked by the Warburn football team each game over a series of 48 games.



The number of games in which Warburn scored more than 17 goals is

**Answer D**

**More** than 17 goals is 18 or above.

There are four dots for 18 or above.

So 4.

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### Mathematics Questions by Topics

Data Analysis – Multiple Choice

Answer 50

Source: K21FM1S50

Ken wants to display the results of the number of goals kicked in the last season by three teams, the *Mutants*, the *Phantoms* and the *Dodgers*.

What is the best display for him to use?

### Answer E

Here, the three teams are the explanatory variable and are categorical data.

The response variable, the number of goals scored, is numerical data.

We have 3 teams, so cannot use back-to-back stem and leaf, which could only be used for two teams. Not A.

Scatter plots cannot be used when the explanatory variable is categorical. Not B.

You would need to compare **three dot plots** so would need parallel dot plots. Not C.

Time series always have time for the explanatory variable. Not D.

Parallel box plots would be good to use when comparing three categorical explanatory variables where the response variable is numerical. **E is best.**

End of  
**MATHEMATICS QUESTIONS BY TOPICS**  
**DATA ANALYSIS**  
**Answers to 50 Multiple Choice Questions**

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**About the Authors:** William Paul Healy BSc BA Dip Ed and Barbara Clarice Healy BSc BEd are experienced mathematics and science teachers each with more than 30 years classroom experience. As principal writers for Kilbaha Education they bring a wealth of pedagogical knowledge and expertise to their many publications. The quality of their work has been demonstrated over the years with content written for the VCE examinations in Victoria Australia.

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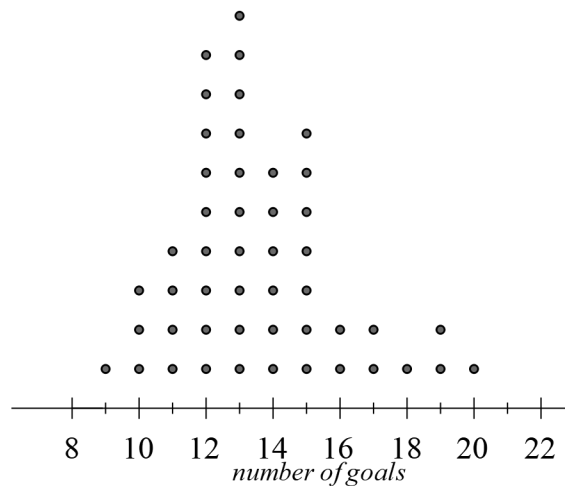
### Mathematics Questions by Topics

Data Analysis – Multiple Choice

Question 2

Source: K21FM1Q2

The dot plot below shows the number of goals kicked by the Warburn football team each game over a series of 48 games.



The median number of goals scored in a game is

- A. 12
- B. 13
- C. 14
- D. 15
- E. 16

Get more information at this QR code.

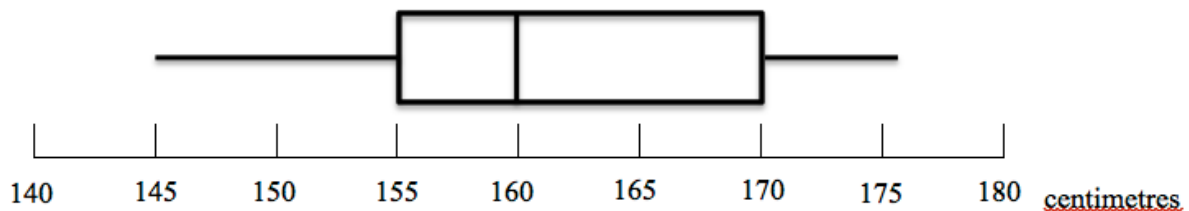
### Mathematics Questions by Topics

Data Analysis – Multiple Choice

Question 49

Source: K17FM1Q6

Heights of females



400 females were measured for height and the results shown in the above box plot. How many of these females had a height greater than 170 cm?

- A. 4
- B. 40
- C. 50
- D. 100
- E. 120

Get more information at this QR code.

**Mathematics Questions by Topics**

Data Analysis – Multiple Choice

Question 50

Source: K17FM1Q7

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