Name:

Data Handling

and Statistics 4

Additional Tasks

Contents

Quiz 1

1) 2.4 + 3.8 + 6.3	2) Order from least to greatest: 0.65, 0.506, 0.56, 0.065, 0.06, 0.605.	3) 56 ÷ 7
4) 2.6 × 8	5) 76 − 38	6) Order from least to greatest: 8, −3, 5, −9, 0, −7.
7) 2 ÷ 4	8) 12 − −4	9) Which number is largest? 0.002, 0.02, 0.0202, 0.020000, 0.0020.

___ out of 9

Example 1

Calculate the median, mode, mean and range of the following data set. 17, 14, 11, 18, 19, 13, 17, 12.

Re-arrange the numbers:

11, 12, 13, 14, 17, 17, 18, 19.

The median is   15.5 ← 14 + 17 = 31
                            31 ÷ 2 = 15.5

The mode is 17.   17 is the most popular
                    number in the data

The total of the numbers is 121.

The mean is 121 ÷ 8 = 15.125

Total ÷ Number of data items

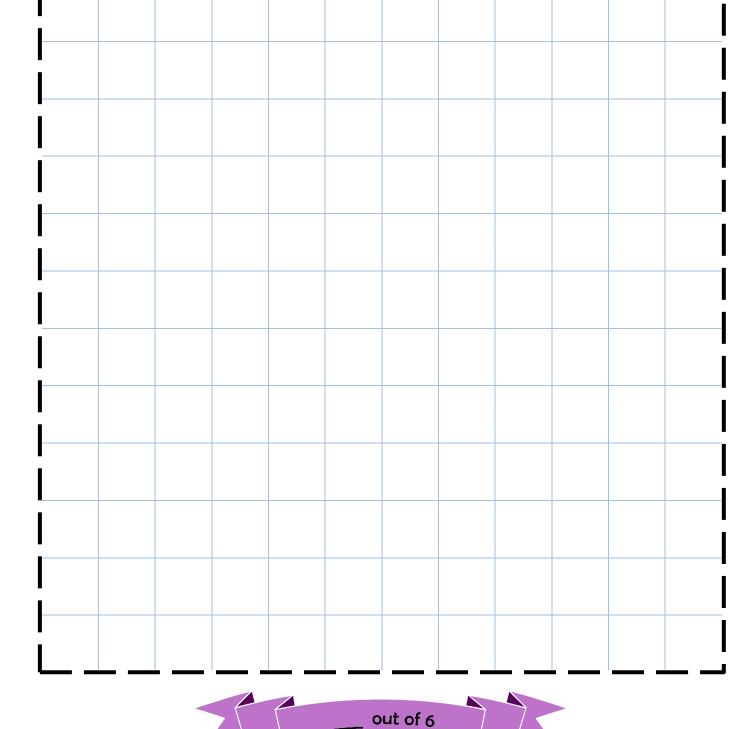The range is   19 - 11 = 8

Greatest - Least

Exercise 1

Calculate the median, mode, mean and range of the following data set. 24, 27, 25, 28, 21, 26, 27, 23, 25, 27.

___ out of 6

Quiz 2

1) The mode of
2, 4, 4, 5, 6, 8.

2) The mode of
2, 4, 4, 5, 6, 6.

3) The mode of
2, 3, 4, 6, 7, 8.

4) The median of
3, 4, 7, 8, 10.

5) The median of
2, 3, 4, 7, 8, 10.

6) The median of
8, 4, 2, 10, 3, 4.

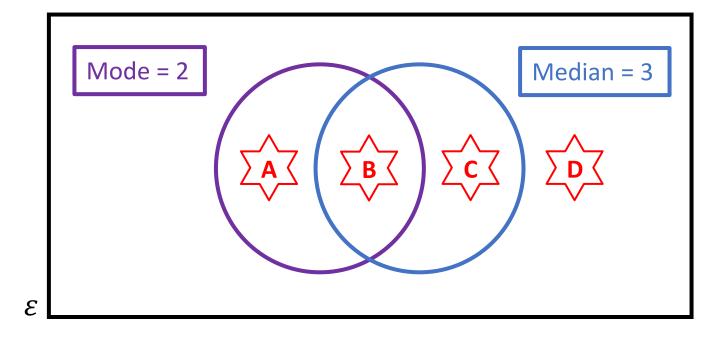7) The mean of
3, 2, 9, 1, 5.

8) The mean of
3, 2, 9, 1.

9) The mean of
−14, −10.

___ out of 9

Venn Diagram Challenge 1

Mode = 2

Median = 3

A   B   C   D

$\mathcal{E}$

Think of **3** numbers that could belong to each region.
If you think a region is impossible to fill, explain why!

A

B

C

D

Example 2

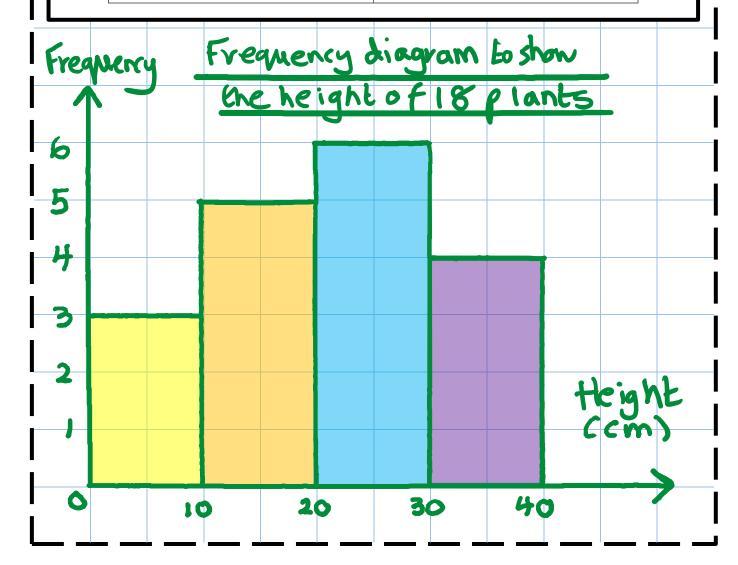Draw a frequency diagram for the following data that shows the height of 18 plants.

Height, h cm	Frequency
$0 \leqslant h < 10$	3
$10 \leqslant h < 20$	5
$20 \leqslant h < 30$	6
$30 \leqslant h < 40$	4

Frequency

Frequency diagram to show the height of 18 plants

Height (cm)

Exercise 2

Draw a frequency diagram for the following data that shows the height of 18 plants.
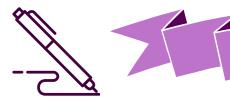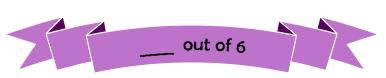
Height, h cm	Frequency
$0 \leqslant h < 10$	5
$10 \leqslant h < 20$	4
$20 \leqslant h < 30$	6
$30 \leqslant h < 40$	3

___ out of 6

Quiz 3

1) What is the mid-point of the class $0 \leqslant x < 10$?

2) What is the mid-point of the class $5 \leqslant x < 10$?

3) What is the mid-point of the class $-10 \leqslant x < 10$?

4) The range of 5, 7, 10, 12, 16.

5) The range of 9, 1, 3, 8, 5.

6) The range of $-4, -1, 0, 3, 8$.

7) $\frac{1}{2}$ of 70.

8) $\frac{1}{4}$ of 70.

9) $\frac{3}{4}$ of 70.

___ out of 9

Venn Diagram Challenge 2

Median = 5   No mode

ε
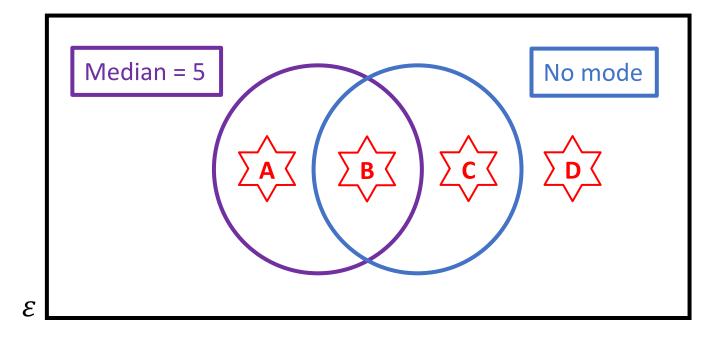
Think of **4** numbers that could belong to each region.

If you think a region is impossible to fill, explain why!

A

B

C

D

Example 3

Calculate an estimate for the mean height of the following plants.

Height, h cm	Frequency
$0 \leqslant h < 10$	3
$10 \leqslant h < 20$	5
$20 \leqslant h < 30$	6
$30 \leqslant h < 40$	4
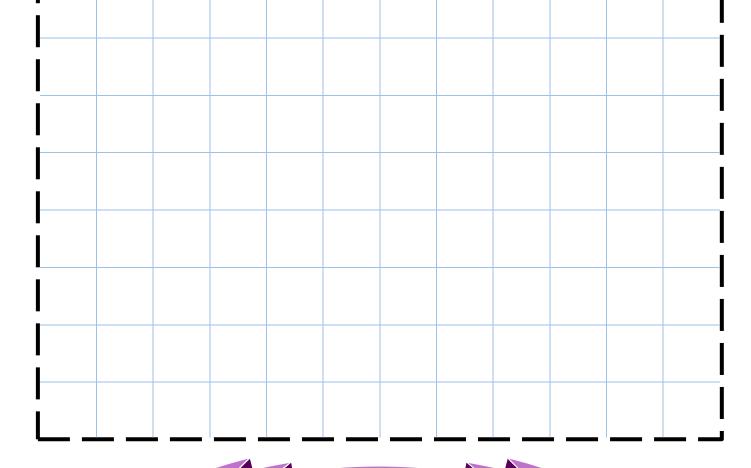
Height, h cm	Frequency	Mid-point	Multiply
$0 \leqslant h < 10$	3	5	15
$10 \leqslant h < 20$	5	15	75
$20 \leqslant h < 30$	6	25	150
$30 \leqslant h < 40$	4	35	140
	18		380

Divide by the total of the frequencies, NOT by the number of classes

Multiply frequency by mid-point

$$380 \div 18 = 21.1 \text{cm}$$

$$= \underline{21.1 \text{cm}} \text{ to one decimal place}$$

Exercise 3

Calculate an estimate for the mean height of the following plants.

Height, h cm	Frequency
$10 \leqslant h < 20$	3
$20 \leqslant h < 30$	5
$30 \leqslant h < 40$	11
$40 \leqslant h < 50$	1

___ out of 4
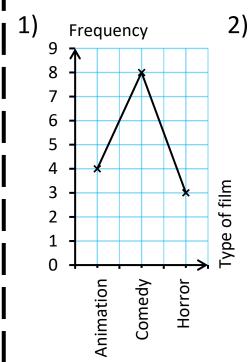
Quiz 4
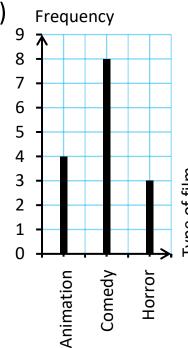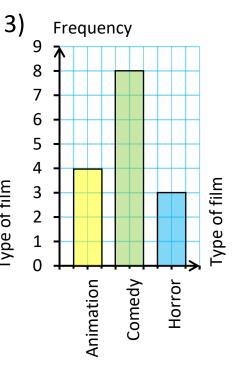
What type of graphs/charts/diagrams are these?

1)

Frequency

Type of film

Animation Comedy Horror

_____

2)

Frequency

Type of film

Animation Comedy Horror

_____

3)

Frequency

Type of film

Animation Comedy Horror

_____

4)
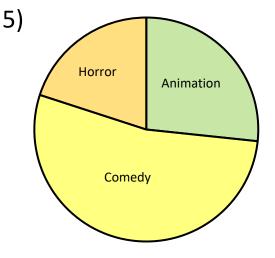
Pictogram to show the favourite film genre of 15 people

Animation	☐ ☐
Comedy	☐ ☐ ☐ ☐
Horror	☐ ☐

Key: ☐ = 2 people

_____

5)

Horror

Animation

Comedy

_____

___ out of 5

Venn Diagram Challenge 3

Mean = 4

Range < 3

A   B   C   D

$\mathcal{E}$
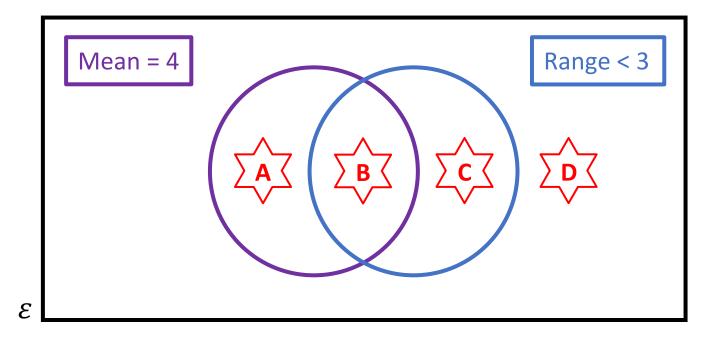
Think of **5** numbers that could belong to each region.

If you think a region is impossible to fill, explain why!

A

B

C

D

Example 4

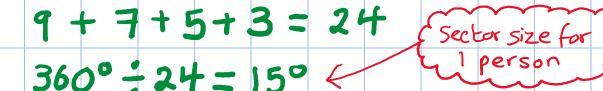Draw a pie chart for the following data showing the favourite colour for class 10R.

Colour	Frequency
Red	9
Blue	7
Green	5
Yellow	3

$9 + 7 + 5 + 3 = 24$

$360° \div 24 = 15°$

Sector size for 1 person

Draw using a protractor and ruler

Pie chart to show 10 R's favourite colour

Red: $9 \times 15° = 135°$

Blue: $7 \times 15° = 105°$

Green: $5 \times 15° = 75°$

Yellow: $3 \times 15° = 45°$

check that the total is 360°

$\underline{360°} \checkmark$

Exercise 4
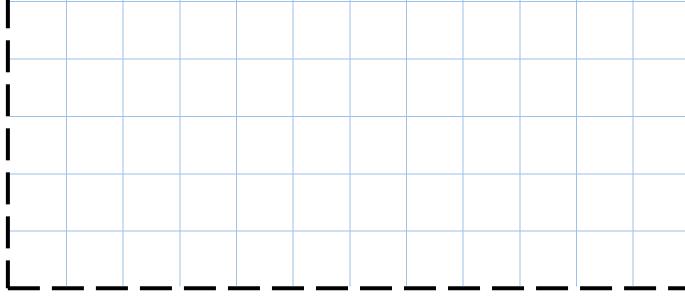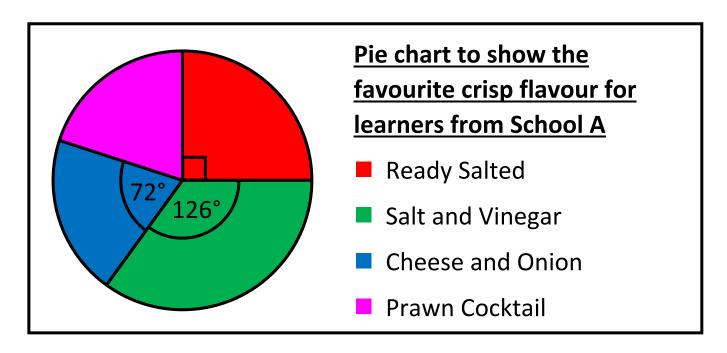
Draw a pie chart for the following data showing the favourite colour for class 10E.

Colour	Frequency
Red	4
Pink	7
Blue	3
Purple	6

___ out of 5

Interpreting a Pie Chart

Pie chart to show the favourite crisp flavour for learners from School A

- 🟥 Ready Salted
- 🟩 Salt and Vinegar
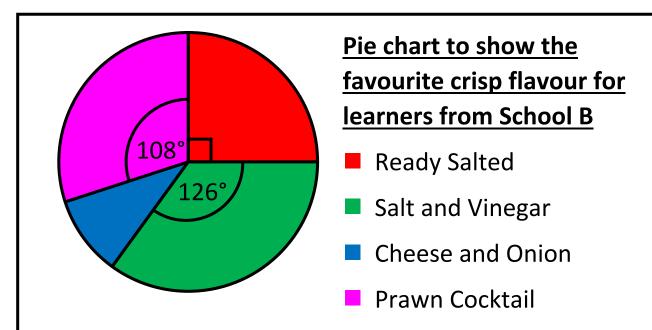- 🟦 Cheese and Onion
- 🟪 Prawn Cocktail

1) Catrin said "*More people like prawn cocktail than ready salted*". Do you agree with Catrin? Explain your answer.

2) What percentage of all the learners from School A liked prawn cocktail best?

3) 252 learners liked salt and vinegar best. How many learners liked cheese and onion best?

Pie chart to show the favourite crisp flavour for learners from School B

- Ready Salted
- Salt and Vinegar
- Cheese and Onion
- Prawn Cocktail

4) Dion said "*More people liked cheese and onion in School A than School B*". Is Dion correct? Explain your answer.

Evaluating the Workbook

⭐

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Notes

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