



Grade 9 - Mathematics

Organising and Representing Data 1



Memo

1. The data below represents the favourite colours of learners in a Gr 9 class:

Colours	Red	Orange	Blue	Green	Yellow	Pink	Black
Learners	6	5	9	7	4	2	3

- a. How many learners are in this grade 9 class?

36

- b. What is the modal class?

Blue

- c. What is the range of the data?

$$9 - 2 = 7$$

The range is 7.

- d. Draw a pie chart to represent the data.

Working:

$$\frac{6}{36} \times 360^\circ = 60^\circ$$

$$\frac{5}{36} \times 360^\circ = 50^\circ$$

$$\frac{9}{36} \times 360^\circ = 90^\circ$$

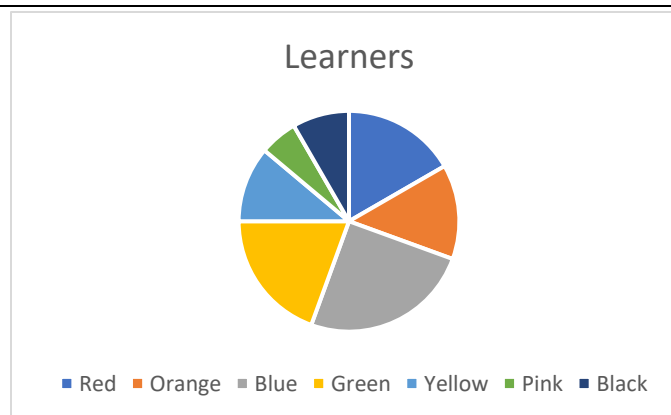
$$\frac{7}{36} \times 360^\circ = 70^\circ$$

$$\frac{4}{36} \times 360^\circ = 40^\circ$$

$$\frac{2}{36} \times 360^\circ = 20^\circ$$

$$\frac{3}{36} \times 360^\circ = 30^\circ$$

Pie chart





WorksheetCloud

2. A volunteer for a local running club counted the number of participants at each race over a 6month period. The findings were recorded on this stem-and-leaf plot.

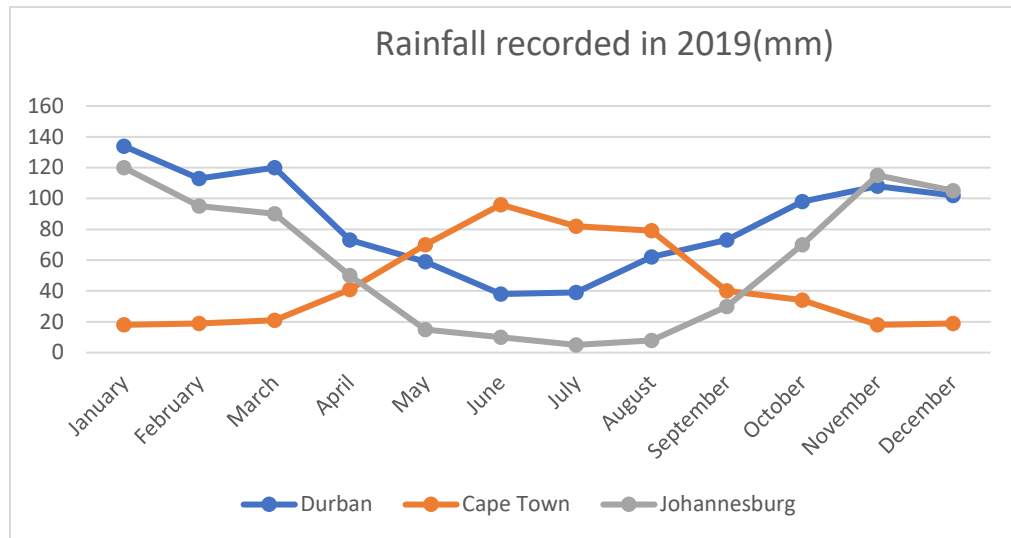
1		0 1 2 3 7
2		2 3 7 7
3		2 2 5 7 9
4		3 8
5		0 2 3 7 9
6		1 7 8

- a. How many races were there in this 6month period?
24 races
- b. What is the highest number of participants across the races?
68
- c. How many races had more than 20 but less than 60 participants?
16 races
- d. What is the range represented by this data?
 $68 - 10 = 58$
The range is 58
- e. Calculate the mean number of participants?
 $(10 + 11 + 12 + 13 + 17 + 22 + 23 + 27 + 27 + 32 + 32 + 35 + 37 + 39 + 43 + 48 + 50 + 52 + 53 + 57 + 59 + 61 + 67 + 68) \div 24$
 $= 895 \div 24$
 $= 37,29$
- f. In how many races were there less than 25 participants?
4 races
- g. How many races were the number of participants between 40 and 50, and how many participants were in each of these races?
2 races; 43 and 48



WorksheetCloud

3. Study this broken line graph in order to answer the questions:



a. In which month did Cape Town experience the most rainfall?

June

b. In which month is the difference in rainfall experienced in all three cities the smallest.

April

c. Which two cities experience very similar rainfall patterns?

Durban and Johannesburg

d. From this graph explain the rainfall received in relation to the seasons.

In Durban and Johannesburg, the recorded rainfall is the highest in November, December and January. We can conclude that these two cities receive most of their rainfall during summer. In Cape Town the highest recorded rainfall is in June, July and August so we can conclude that this city receives most of its rainfall in winter.