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**Worksheet 2 – Data handling**

**Mathematical Literacy – Grade 12**

1. The results from the women's long jump final from the Summer Olympic games 2012 are given in the table below, use the data to answer the questions that follow.

| Athlete | Score 1 | Score 2 | Score 3 | Score 4 | Score 5 | Score 6 |
|---|---|---|---|---|---|---|
| Shara Proctor | **6.55** | x | 6.37 | - | - | - |
| Janay DeLoach | 6.77 | x | 6.71 | 6.74 | **6.89** | x |
| Brittney Reese | x | **7.12** | x | x | 6.69 | x |
| Veronika Shutkova | 6.37 | **6.54** | 6.53 | - | - | - |
| Anna Nazarova | x | **6.77** | x | 6.56 | 6.45 | 6.62 |
| Nastassia Mironchyk-Ivanova | 6.61 | 6.62 | 6.54 | **6.72** | x | 4.55 |
| Yelena Sokolova | 6.80 | **7.07** | 6.84 | 6.93 | 6.78 | 6.79 |
| Ivana Spanovic | 4.29 | 6.33 | **6.35** | - | - | - |
| Ineta Radevica | **6.88** | 6.77 | 6.74 | x | x | 6.79 |
| Eloyse Lesueur | 6.57 | x | x | x | **6.67** | x |
| Lyudmila Kolchanova | x | x | **6.76** | 6.44 | x | 5.97 |

a) Find the median for Veronika Shutkova's jumps during the long jump final?

b) Which long jump athlete won the gold medal?

c) Did Janay DeLoach win a medal? If so, what colour was her medal?

d) Name the athlete(s) that completed the lowest number of successful jumps?

e) What is the average highest jump for all 11 athletes (the highest score for each competitor has been highlighted to assist you)

f) What is the range of the data given in the table above?

2. A teacher wanted to compare the exam marks for 30 of her students (in percentage). Look carefully at the data below and answer the questions that follow.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 85 | 64 | 51 | 42 | 91 | 41 | 51 | 75 | 69 | 70 |
| 25 | 51 | 99 | 47 | 25 | 69 | 73 | 10 | 30 | 48 |
| 84 | 41 | 51 | 97 | 42 | 78 | 67 | 77 | 49 | 69 |

a) Determine the mode of the data.

b) Determine the mean of the data.

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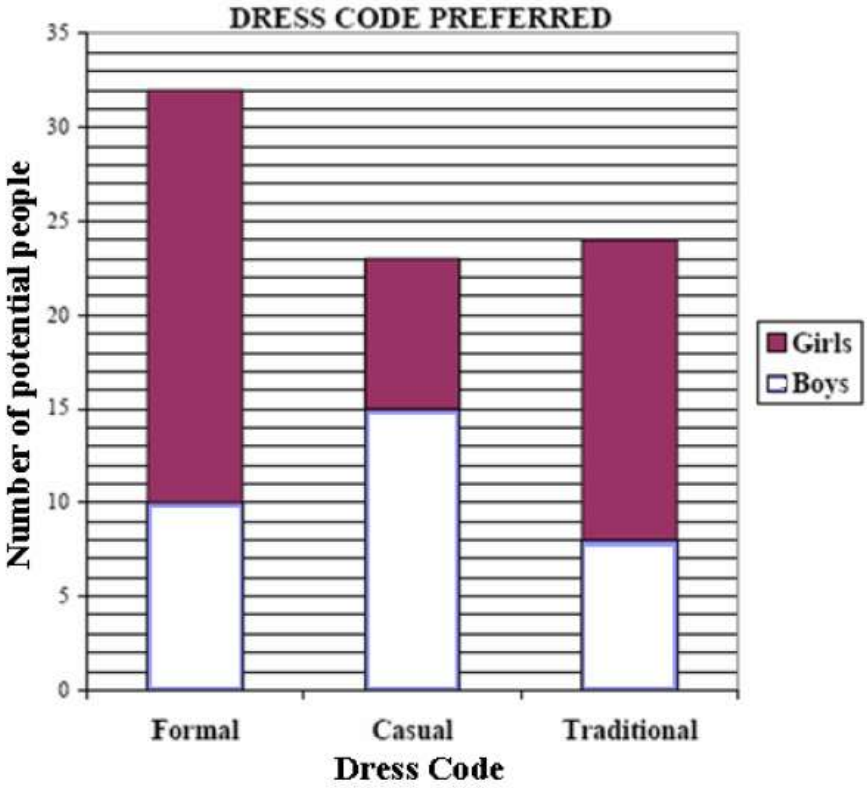
c) Give the range of the data.

d) What percentage of students achieved a mark above 50%?

3. The members of a hockey team want to host a fundraising dinner to raise enough money to pay for a trip to Greece to play a tournament. They decide to do some research to find out what the dress code of the dinner should be. Use the given data to answer the questions that follow.




a) Which dress code was found to be the least popular among the girls?

b) Which dress code was the least popular overall?

c) Which dress code was most popular among the boys?

d) How many boys prefer traditional dress?

e) How many girls prefer casual dress?

f) How many people took part in this survey?

4. Jane wants to open a women's shoe store, she needs to order stock for the store so she does some research and gathers data about the women's shoe sizes in the area near her shop. Use the data collected to answer the questions that follow.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 4 | 6 | 5 | 5 | 3 | 7 | 4 | 5 | 8 | 7 | 5 | 6 |
| 6 | 5 | 4 | 5 | 5 | 7 | 3 | 6 | 4 | 4 | 6 | 8 | 3 |

a) How many women did Jane include in her survey?

b) If there are 600 women living in the area surrounding the shop, what is the size of the sample that were surveyed in percentage?

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c) What is the mode of the data collected?

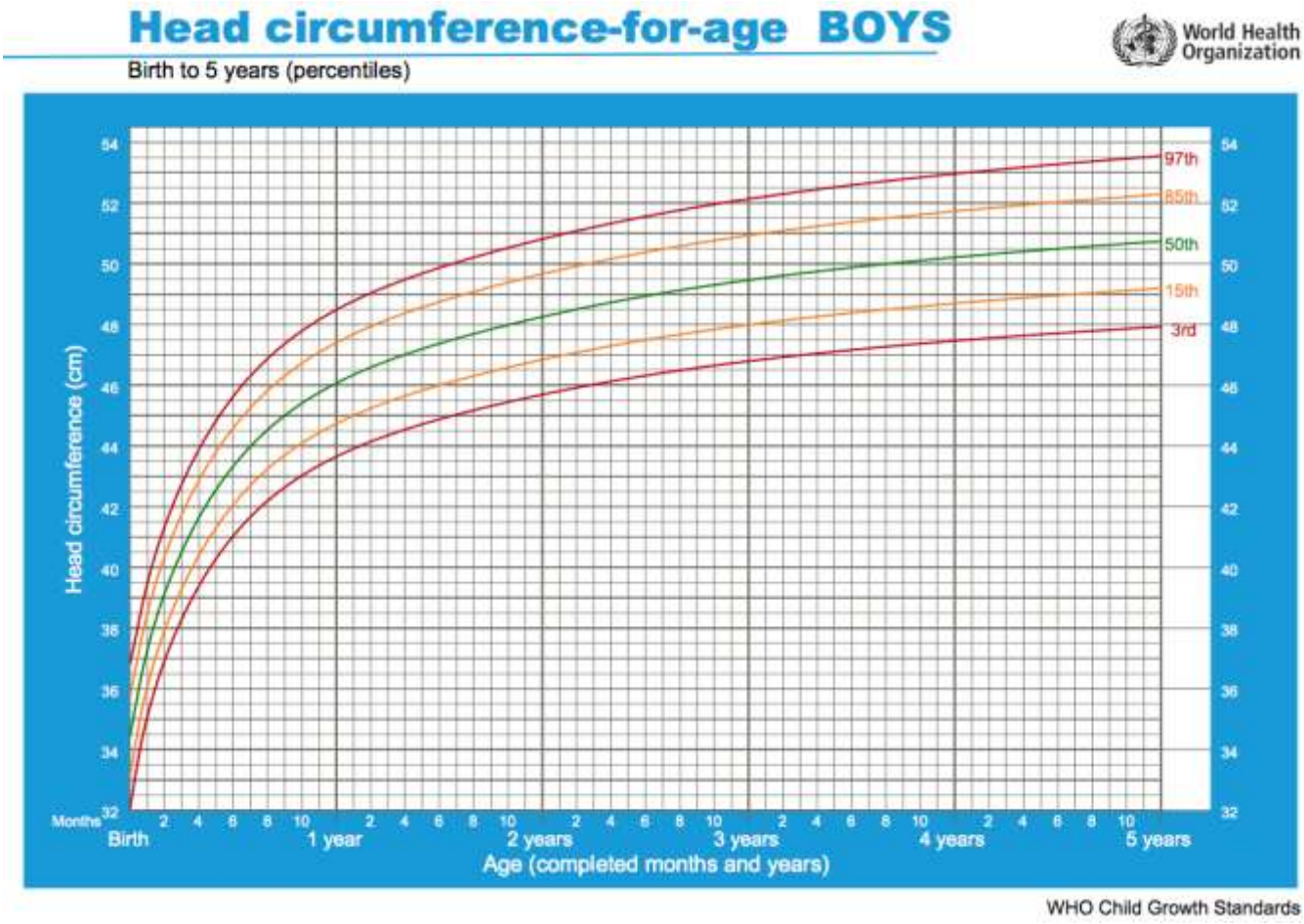
d) What is the median of the data collected?

e) What is the mean of the data collected?

f) What is the range of shoe sizes that Jane should stock in her shop?

g) Do you think that the survey results are accurate? If not, what could you do to increase the accuracy of the survey?

5. The graph below shows the head circumference for boys at various ages. Use the graph below to answer the questions that follow.




a) At what percentile is a 2 year old boy whose head circumference is $48{,}5\ cm$?

b) If a 4 year old boy is on the 97$^{th}$ percentile, what is the circumference of his head?

c) What does it mean to be in the 50$^{th}$ percentile?

d) Give another name for the 50$^{th}$ percentile.

e) A boy is considered to be underdeveloped, and a cause for concern if his head circumference is less than 43 cm at age 1. What percentile does this fall into?

f) If this chart was drawn up by taking the head circumference of only 10 boys, would it be a fair test? If not, how would you make this test more fair?

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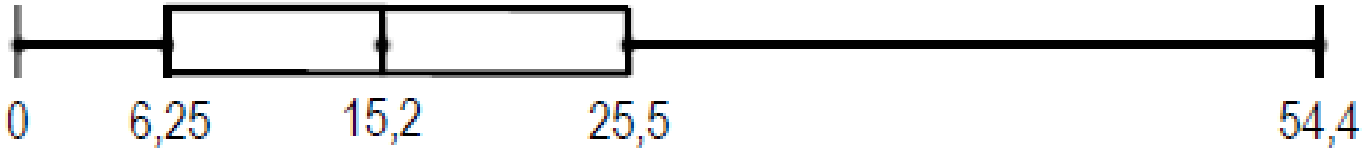
6. The box and whisker plot below represents the batting averages of the 160 cricketers who have batted in T 20 matches since 1 January 2009. Answer the questions that follow based on the plot.




a) What do you call the data point 15,2?

b) How many players have a batting average less than 6,25?

c) If a batter wants to have his batting average in the top quartile what should his batting average be?

d) How many players achieved a batting average between 15,2 and 25,5?

e) What is the range of batting averages?

f) With a batting average of 48,4 Jacques Kallis is the South African with the best batting average, how does this compare to the other batsmen?

g) What point on the box and whisker plot is represented by 54,4?

h) The following individual scores were collected for AB De Villiers over twenty T20 matches.

23, 16, 0, 53, 29, 73, 94, 102, 28, 37, 11, 19, 40, 108, 7, 11, 32, 49, 61, 25

Draw a stem and leaf diagram to represent the data above.

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