

Quiz 6

Show all your work

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 Number: _____
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 Score: ____/10

Problem 1: Below is a list of ages for a sample of construction workers on Burnaby's Cameron Recreation job site.

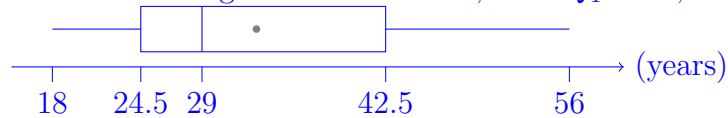
29, 19, 33, 24, 37, 25, 18, 27, 25, 42, 43, 56, 51

- Make a stem-and-leaf plot of the given data.
- Find the mode.
- Find the range.
- Draw a boxplot for the data, clearly labelling all three quartiles.

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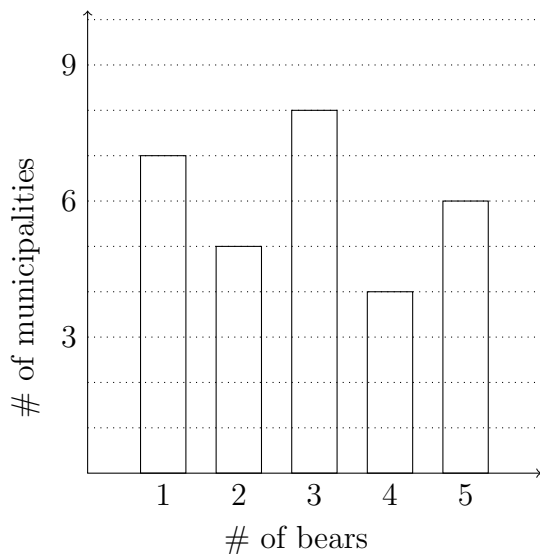
1 | 8 9
2 | 4 5 5 7 9
3 | 3 7
4 | 2 3
5 | 5 6
    
```

a. $n = 13$ workers; b. the median is 29 years; c. the mode is 25 years; d. 18–56, so $56 - 18 = 38$ years, and e. $Q_1 = \frac{24+25}{2} = 24.5$ years; $Q_3 = \frac{42+43}{2} = 42.5$ years excluding the median. If using inclusive method, then $Q_1 = 25$, and $Q_3 = 42$ years old.



Score: /6

Problem 2: The histogram shown is a summary of a survey of the number of bears (on the horizontal axis) a sample of our provincial municipalities have. Answer the following questions. Remember to round correctly and include units when applicable.



- Find the number (n) of municipalities surveyed.
- Find the average number of bears per municipality in the sample.
- Find the standard deviation of the sample data.

- The number of municipalities surveyed is $n = 7 + 5 + 8 + 4 + 6 = 30$ municipalities.
- The average number of bears is $(7 \times 1 + 5 \times 2 + 8 \times 3 + 4 \times 4 + 6 \times 5)/30 = 87/30 \approx 2.9$ bears per municipality.
- The variance is

$$\frac{7 \times (1 - 2.9)^2 + 5 \times (2 - 2.9)^2 + 8 \times (3 - 2.9)^2 + 4 \times (4 - 2.9)^2 + 6 \times (5 - 2.9)^2}{30 - 1} \approx 2.093,$$

or 2.1, so the standard deviation is $\sqrt{2.093} \approx 1.447$, or 1.4 bears.

Score: /4

/10