

## Lab Assignment 2.3, 2.4

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Row: \_\_\_\_\_

### Lab Assignment 2.3, 2.4

1. Listed are 29 ages for Academy Award winning best actors in order from smallest to largest. 18; 21; 22; 25; 26; 27; 29; 30; 31; 33; 36; 37; 41; 42; 47; 52; 55; 57; 58; 62; 64; 67; 69; 71; 72; 73; 74; 76; 77.

a. Find the 40th percentile.

b. Find the 78th percentile.

2. Listed are 32 ages for Academy Award winning best actors in order from smallest to largest. 18; 18; 21; 22; 25; 26; 27; 29; 30; 31; 31; 33; 36; 37; 37; 41; 42; 47; 52; 55; 57; 58; 62; 64; 67; 69; 71; 72; 73; 74; 76; 77.

a. Find the percentile of 37.

b. Find the percentile of 72.

c. Find the first quartile.

d. Find the second quartile = median = 50th percentile.

e. Find the third quartile.

f. Interquartile range (IQR).

g. Determine if any ages are outliers.

3. Six hundred adult Americans were asked by telephone poll, "What do you think constitutes a middle-class income?" The results are in Table 2.69. Also, include left endpoint, but not the right endpoint.

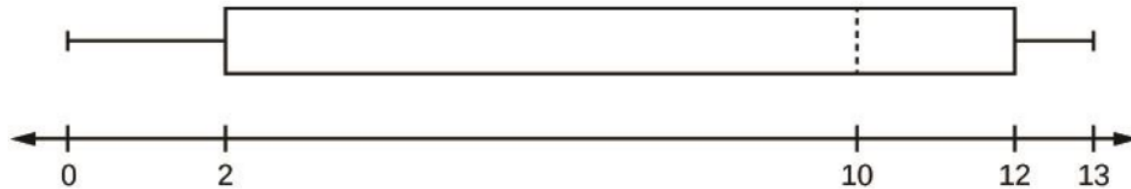
Salary (\$)	Relative Frequency
< 20,000	0.02
20,000–25,000	0.09
25,000–30,000	0.19
30,000–40,000	0.26
40,000–50,000	0.18
50,000–75,000	0.17
75,000–99,999	0.02
100,000+	0.01

a. What percentage think that middle-class is from \$25,000 to \$50,000?

b. Find the 40th percentile.

c. Find the 80th percentile.

4. Given the following box plot:



In this box plot, the first whisker extends from the smallest value, 0, to the first quartile, 2. The box begins at the first quartile and extends to the third quartile, 12. A vertical, dashed line is drawn at the median, 10. The second whisker extends from the third quartile to the largest value, 13.

a. Which quarter has the smallest spread of data? What is that spread?

b. Which quarter has the largest spread of data? What is that spread?

c. Find the interquartile range (IQR).

d. Are there more data in the interval 5–10 or in the interval 10–13? How do you know this?

e. Which interval has the fewest data in it? How do you know this?

i. 0–2

ii. 2–4

iii. 10–12

iv. 12–13

v. need more information

5. Listed are 29 ages for Academy Award winning best actors in order from smallest to largest. 18; 21; 22; 25; 26; 27; 29; 30; 31; 33; 36; 37; 41; 42; 47; 52; 55; 57; 58; 62; 64; 67; 69; 71; 72; 73; 74; 76; 77.

a. Find the 5-number summary.

b. Construct a box plot.

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