

Bank of Questions Chapter 11

1. The following data represents the daily temperature (in °C) recorded over 30 days in a coastal city:

12 14 15 15 16 17
17 18 18 19 20 20
21 21 22 23 24 25
25 26 26 27 28 29
30 31 32 33 34 35

Complete the frequency distribution for the data.

Temperature (°C)	Frequency
10-14	
15-19	
20-24	
25-29	
30-35	

2. The following data represents the monthly electric bills (in dollars) for 30 households:

45, 50, 52, 55, 60, 63, 65, 68, 70, 72, 75, 77, 80, 82, 85, 88, 90, 92, 95, 98, 100, 105, 108, 110, 115, 118, 120, 125, 130, 135.

Complete the frequency distribution for the data.

Electric Bill (\$)	Frequency
40-59	
60-79	
80-99	
100-119	
120-139	

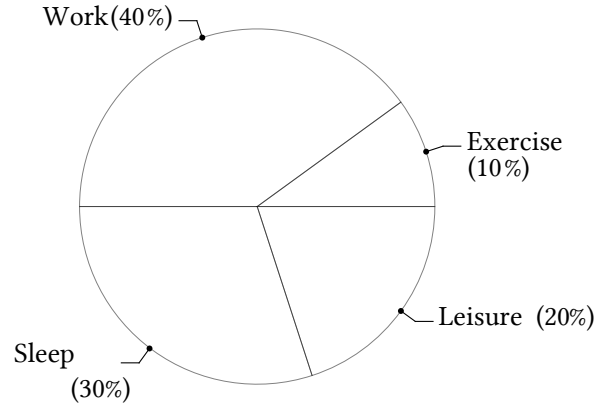
3. The following data represents the time (in minutes) spent commuting to work by 30 employees:

5, 10, 12, 15, 18, 20, 20, 22, 25, 28, 30, 32, 35, 37, 40, 42, 45, 48, 50, 52, 55, 58, 60, 62, 65, 68, 70, 72, 75, 80.

Complete the frequency distribution for the data.

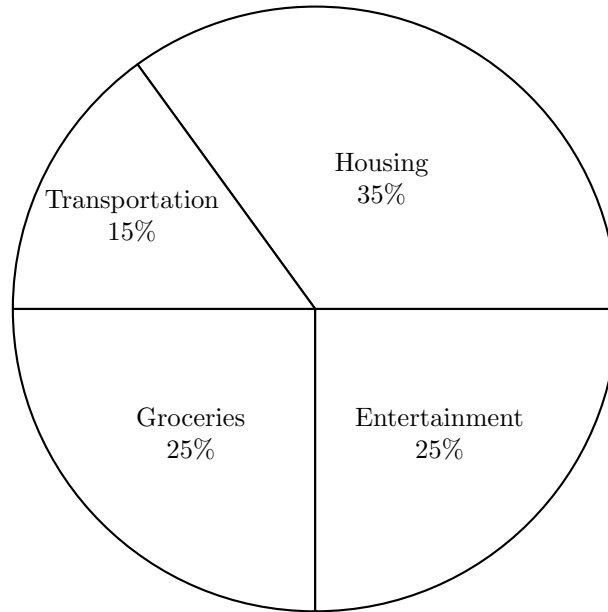
Commute Time (minutes)	Frequency
0-19	
20-39	
40-59	
60-79	
80-99	

4. David tracked his time usage for this week and categorized it into four activities: Work, Exercise, Leisure, and Sleep. The percentages of time he spent on each activity are as follows:



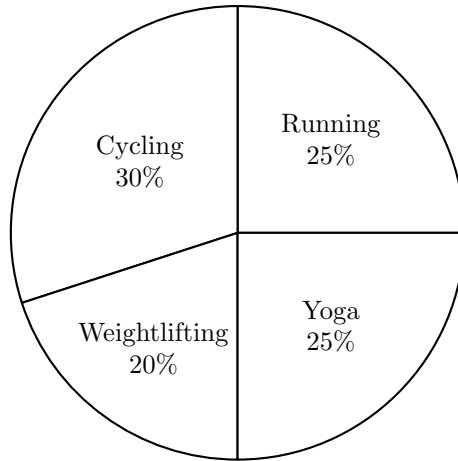
If David had 168 hours available this week, how many hours did he spend on Work?
_____ hours

5. Maria categorized her monthly spending into four categories: Housing, Transportation, Groceries, and Entertainment. The percentages she spent in each category are:



If Maria spent a total of \$2400 this month, how much did she spend on Housing?
_____ dollars

6. James tracked his weekly exercise routine and categorized the time spent into four activities: Running, Cycling, Weightlifting, and Yoga. The percentages of time he spent on each activity are:



If James exercised for a total of 14 hours this week, how many hours did he spend on Cycling?
 _____ hours

7. The following data represents the number of hours spent studying by 30 students during a week:

1 2 2 3 3 4 5
 5 6 7 8 8 9 10
 10 10 11 12 13
 13 14 15 16 17
 18 19 20 21 22

Complete the frequency distribution for the data.

Value Range	Frequency
1 - 5	
6 - 10	
11 - 15	
16 - 20	
21 - 25	

8. The following data represents the scores of 30 students in a mathematics exam:

55 62 62 65 67 68
70 73 75 76 78 80
82 84 85 87 88 90
91 92 93 94 95 96
98 99 100

Complete the frequency distribution for the data.

Score Range	Frequency
50-59	
60-69	
70-79	
80-89	
90-99	
100-109	

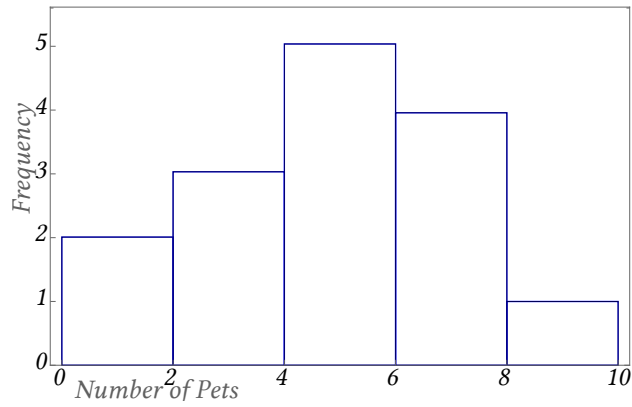
9. The following data represents the ages of 30 participants in a local community fitness program:

22 24 25 26 27 28
29 30 31 32 33 34
35 36 37 38 39 40
41 42 43 44 45 46
47 48 49 50 51 52

Complete the frequency distribution for the data.

Age Range	Frequency
20-29	
30-39	
40-49	
50-59	

10. A survey was conducted to find out how many pets adults own. The bar graph below shows the number of adults who indicated each number of pets.



How many adults were questioned?

_____ adults

What percentage of the adults questioned had less than 4 pets?

_____ %

11. A group of adults were asked how many hours they spend on recreational activities each week. The bar graph below shows the number of adults who indicated each range of hours spent.

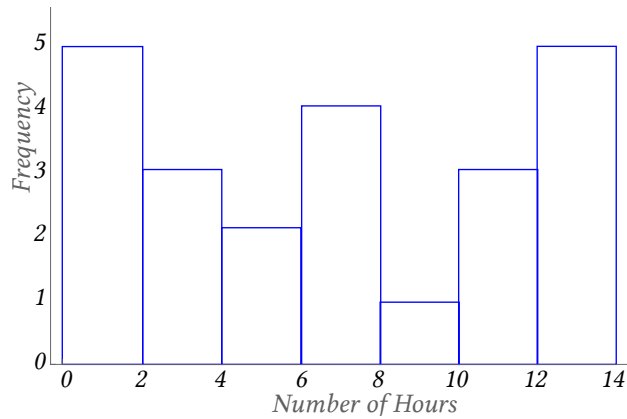


Figure 1: Hours Spent on Recreational Activities

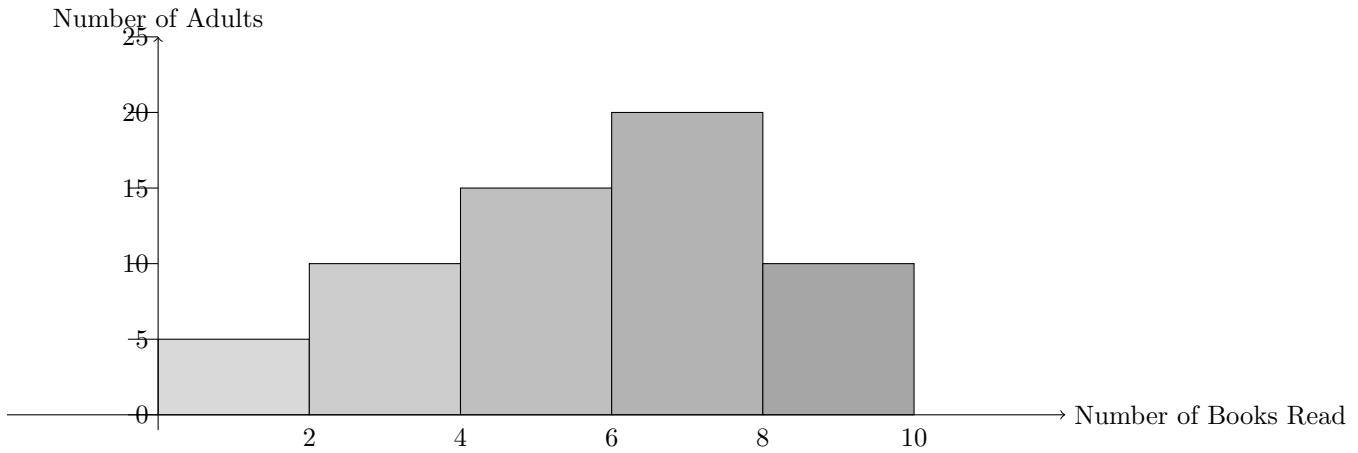
How many adults were questioned?

_____ adults

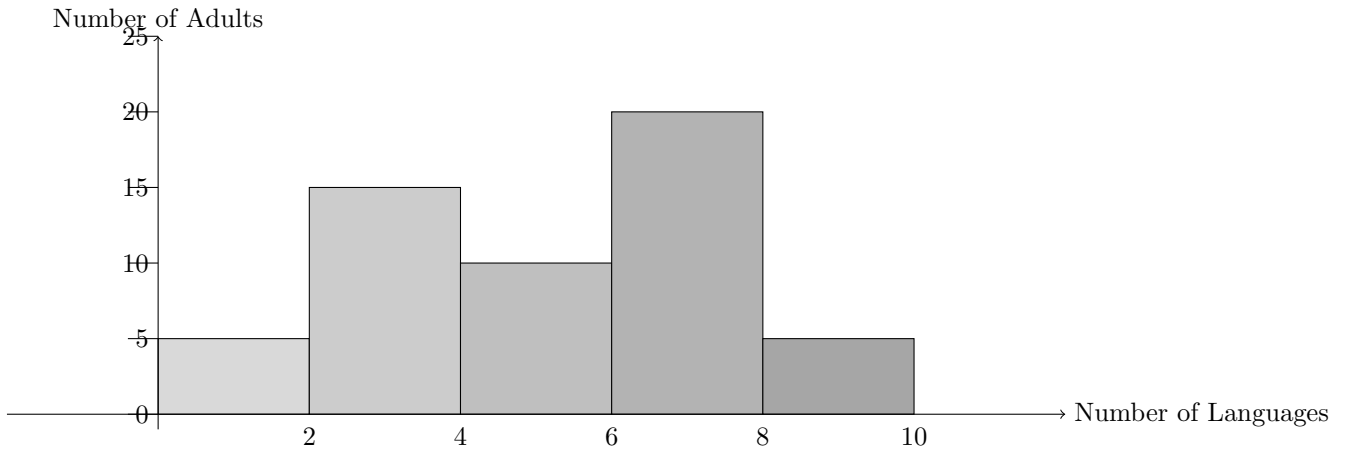
What percentage of the adults questioned had 0 hours of recreational activities?

_____ %

12. A survey was conducted to find out how many books adults read in a month. The bar graph below shows the number of adults who indicated each number of books read.



13. A survey was conducted to find out how many languages adults can speak. The histogram below shows the number of adults who indicated each number of languages spoken.



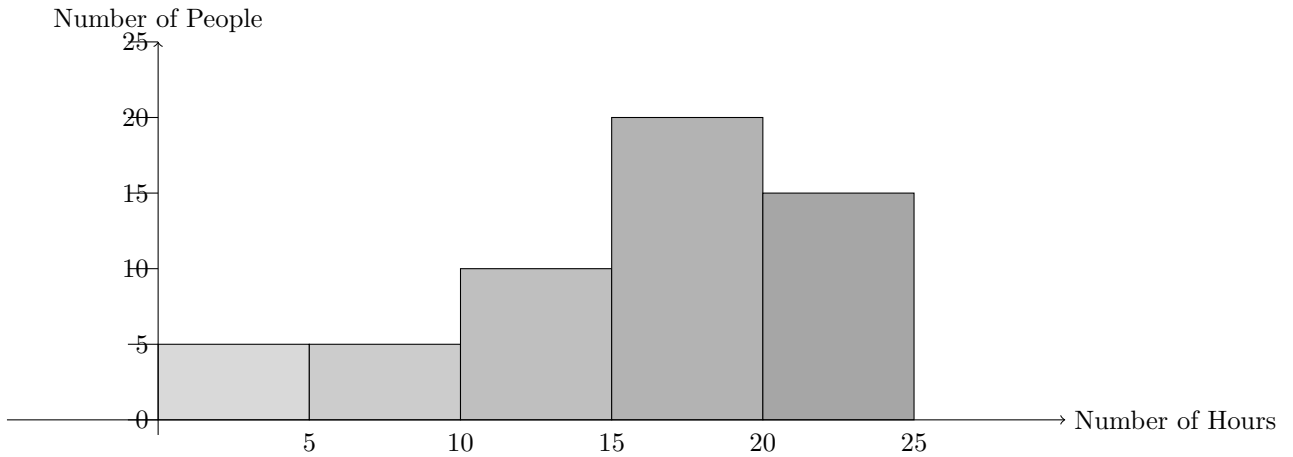
Based on the histogram above, what is the class width?

Class width = _____

What is the sample size?

Sample size = _____

14. A survey was conducted to find out how many hours people spend watching television each week. The histogram below shows the number of individuals who indicated each range of hours spent watching TV.



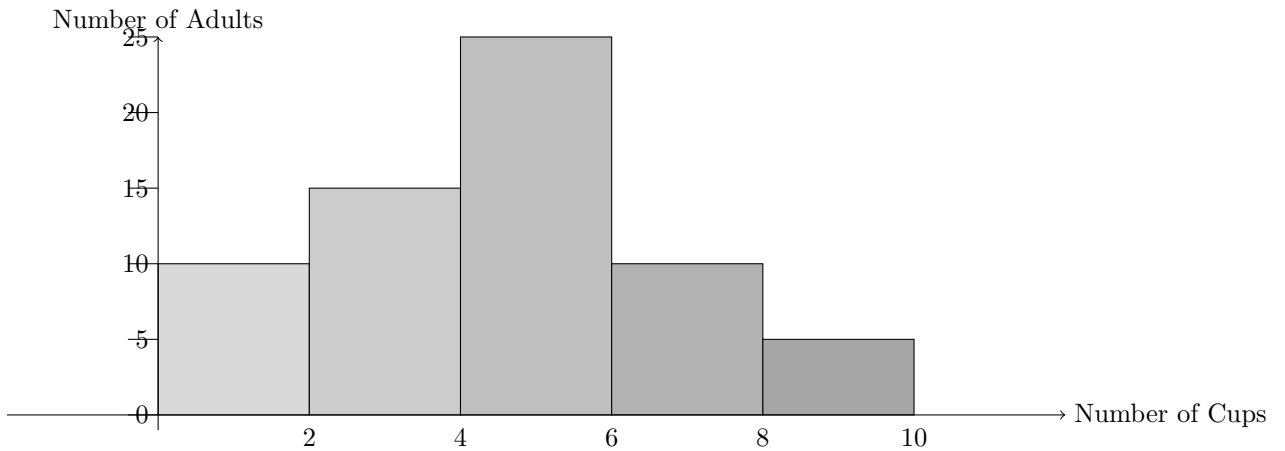
Based on the histogram above, what is the class width?

Class width = _____

What is the sample size?

Sample size = _____

15. A survey was conducted to find out how many cups of coffee adults drink in a week. The bar graph below shows the number of individuals who indicated the number of cups they consume weekly.



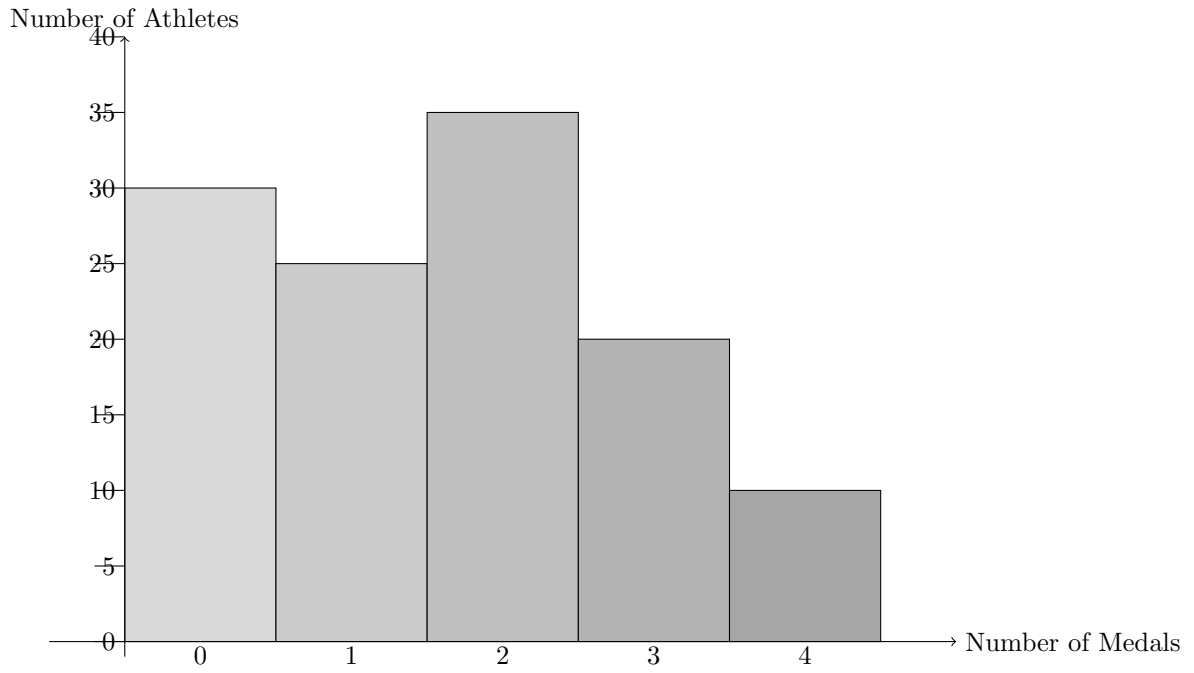
Based on the histogram above, what is the class width?

Class width = _____

What is the sample size?

Sample size = _____

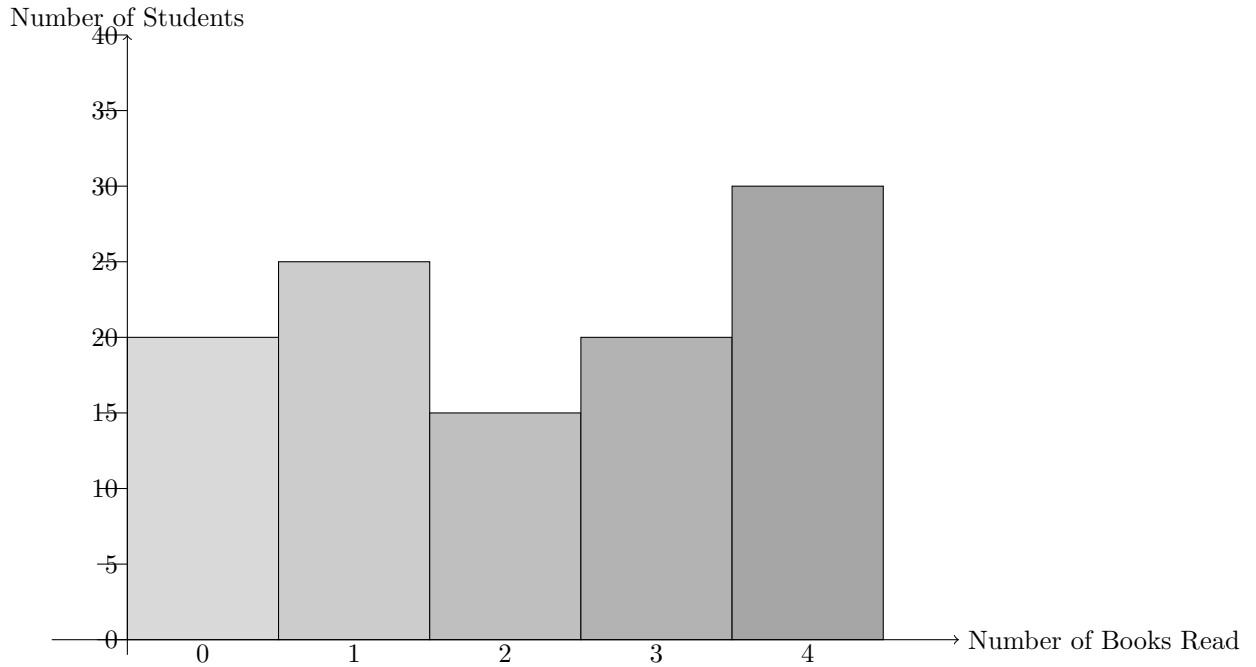
16. The data in the figure below represents the number of medals earned by 120 athletes in a sports competition.



How many athletes earned more than 2 medals?

Number of athletes = _____

17. The data in the figure below represents the number of books read by 100 students over the summer.



Question: How many students read an even number of books?

Number of students = _____

18. A survey was conducted on the monthly rent paid by 80 tenants in an apartment complex, rounded to the nearest \$100. The results are summarized in a frequency table below.

Rent (dollars)	Frequency
600	5
700	10
800	12
900	16
1000	18
1100	11
1200	6
1300	2

Question: What is the mean (average) rent paid by tenants in this apartment complex?

Mean rent = _____

What is the median rent paid by tenants in this apartment complex?

Median rent = _____

19. A car dealership collected data on the number of cars sold by each of its 85 salespeople in the past month. The results are summarized in a frequency table below.

Cars Sold	Frequency
1	6
2	9
3	12
4	15
5	18
6	14
7	7
8	4

What is the mean average number of cars sold per salesperson last month?

Mean cars sold = _____

20. The following data represents the ages of participants in a marathon race:

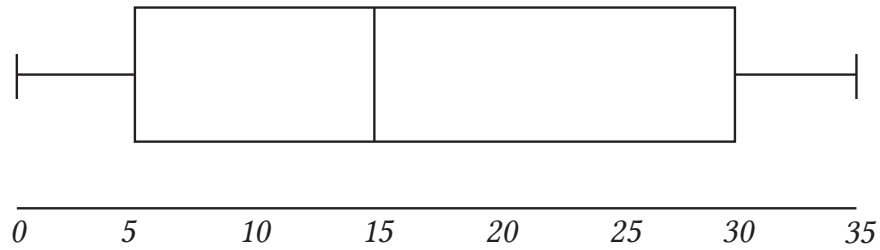
12, 15, 18, 21, 25, 29, 33, 37, 41, 44, 50, 55, 61, 67, 72, 75, 81, 85.

Find the 5-number summary for the data shown.

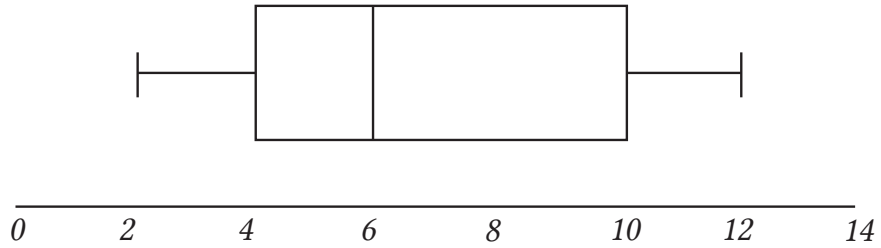
21. The following data represents the monthly rainfall (in millimeters) recorded in a city over the past year. Find the 5-number summary for the data shown:

22 28 35 40 45 49 52 57 61 66 70 75 81 85 92 98

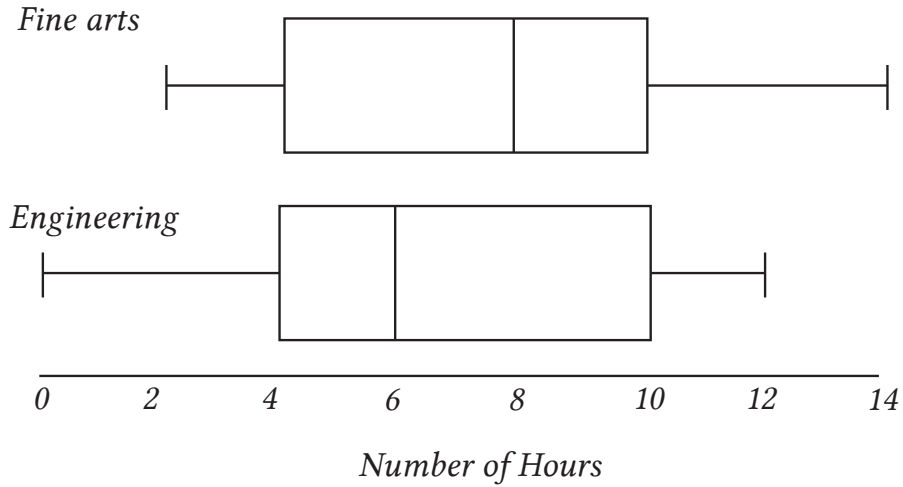
22. Based on the boxplot below, identify the 5 number summary.



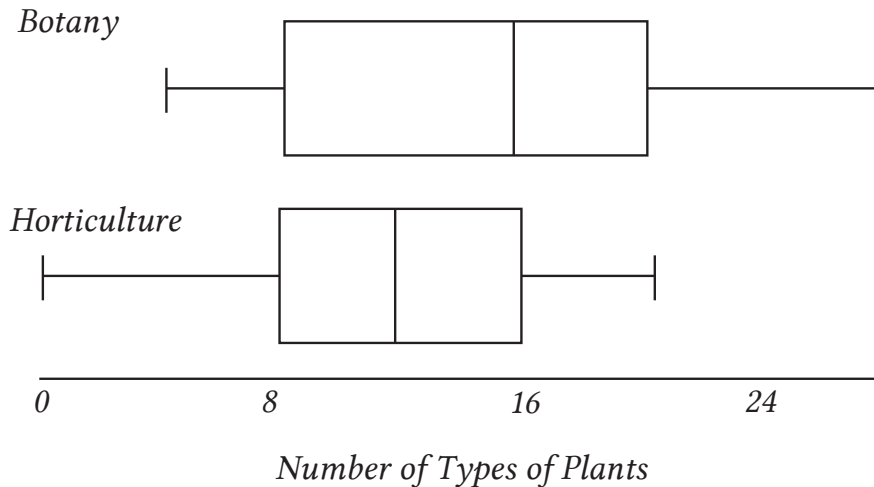
23. Based on the boxplot below, identify the 5 number summary.



24. The boxplot below shows the number of hours spent on creative projects by students in the Fine Arts and Engineering programs during the past semester. Lily spent the median number of hours on creative projects for Fine Arts students. Ethan spent the median number for Engineering students. Who dedicated more time to creative projects?



25. The boxplot below shows the number of different types of plants in gardens managed by students in the Botany and Horticulture programs. Emma has the median number of types of plants in her Botany garden. Liam has the maximum number of types of plants in his Horticulture garden. Who has a more diverse garden?



26. Two local farmers reported the number of different vegetable types they grew this season. Farmer A grew a mean of 15.4 different vegetable types with a standard deviation of 3.2. Farmer B grew a mean of 14.8 different vegetable types with a standard deviation of 2.1. Which farmer grew a greater variety of vegetables on average? Which farmer had a more consistent variety of vegetables?

27. A research team collected data on the number of hours spent volunteering by a group of community members over the last year. The data collected is as follows:

2, 5, 3, 8, 4, 6, 7, 1, 9, 10

Calculate the standard deviation of the number of hours spent volunteering, rounded to one decimal place.

28. A group of friends recorded the number of different hobbies they each have. The data collected is as follows:

3, 4, 2, 5, 6, 1, 3, 8, 4, 7

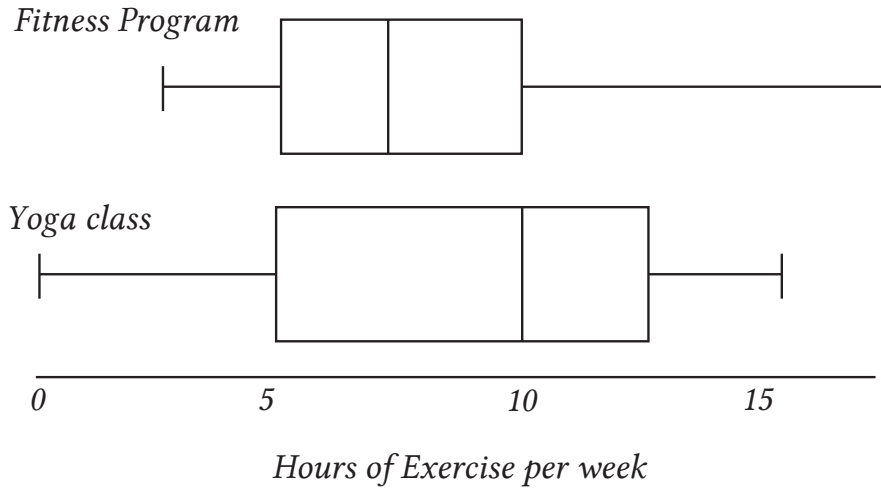
Calculate the standard deviation of the number of hobbies, rounded to one decimal place.

29. A group of students recorded the number of plants they care for at home. The data collected is as follows:

2, 5, 7, 3, 4, 6, 8, 1, 10, 4

Calculate the average (mean) number of plants cared for, rounded to two decimal places.

30. The boxplot below shows the amount of time spent on physical exercise per week by participants in a Fitness Program and a Yoga Class.



If a participant is spending the median amount of time on exercise in the Yoga Class, they are spending more time than what percentage of Fitness Program participants?

31. Which of the following measures does not provide information about the distribution (spread) of a dataset?
- (a) quartiles
 - (b) standard deviation
 - (c) median
 - (d) range
 - (e) all of the above provide information about distribution
32. Consider the data set: 2, 4, 6, 2, 8, 4, 9, 12, 13, 11, 6, 8, 10, 4, 14
Find the average (mean). Round your answer to one place of decimal.

Find the median.
