# Year 7 Worksheet 9: Data and Statistics

Question 1: Measures of central tendency (mean, median, mode).

| 1 | In a family, the ages of six siblings are 9, 11, 7, 9, 12, and 7. Find the mean, median, and mode of their ages. [NO CALC] |
|---|---|
| 2 | Record the daily temperatures in degrees Celsius for a week: 20, 22, 23, 21, 20, 22, 23. Find the mean, median, and mode of the temperatures. [NO CALC] |
| 3 | The monthly allowances (in dollars) for a group of friends are: 40, 30, 20, 40, 30, 50, 20, 40. Find the mean, median, and mode of the monthly allowances. [NO CALC] |

| 4 | Problem: The prices of books (in dollars) at a bookstore are: 15, 20, 25, 15, 30, 20, 25, 15, 20. Find the mean, median, and mode of the book prices. [NO CALC] |
|---|---|
| 5 | The shoe sizes of students in a class are:<br>6, 7, 8, 9, 8, 7, 8, 6, 9, 6, 8, 7, 8, 9, 7.<br>Find the mean, median, and mode of the shoe sizes. |
| 6 | The prices of apples (in dollars) at a market are:<br>1.25, 1.50, 1.25, 1.75, 1.25, 1.50, 1.50.<br>Find the mean, median, and mode of the prices. |

| 7 | In a class of 20 students, the scores on a math test were as follows: 85, 72, 88, 90, 68, 92, 78, 85, 72, 85, 68, 90, 88, 72, 78, 85, 92, 90, 68, 88. Find the mean, median, and mode of the scores. |
|---|---|
| 8 | In a survey, 50 people were asked their favorite ice cream flavors. The results are as follows: 12 people chose vanilla, 15 chose chocolate, 8 chose strawberry, 7 chose mint chip, and 8 chose cookie dough. Find the mean, median, and mode of the survey results. |
| 9 | The test scores of a class of 25 students are: 85, 76, 88, 92, 76, 90, 85, 78, 68, 72, 85, 76, 88, 90, 72, 85, 90, 92, 78, 68, 88, 72, 85, 68, 92. Find the mean, median, and mode of the test scores. |

| 10 | The test scores of a class of 30 students are: 78, 82, 88, 78, 90, 85, 88, 92, 85, 78, 90, 82, 85, 88, 72, 85, 92, 90, 82, 78, 88, 72, 85, 72, 92, 88, 90, 85, 78, 92. Find the mean, median, and mode of the test scores. |
|----|---|

Question 2: Collecting and organizing data.

| 1 | In a class of 30 students, the teacher asked each student their favorite color. The results are as follows: 8 students chose blue, 5 chose green, 7 chose red, and the rest chose yellow. How many students chose yellow as their favorite color? Make a bar graph. |
|---|---|

| | |
|---|---|
| 2 | A survey was conducted to find out how many students in a school like to read. Out of 200 students surveyed, 140 said they enjoy reading. Organize this information in a table showing the number of students who like and do not like reading. |
| 3 | A fruit basket contains apples, bananas, and oranges. There are 15 apples, 12 bananas, and 20 oranges. Create a bar graph to represent the number of each type of fruit in the basket. |
| 4 | At an animal shelter, there are 25 dogs, 18 cats, and 7 rabbits. Organize this information in a table to show the number of each type of pet. |

| 5 | In the library, there are 60 mystery books, 45 science fiction books, and 30 romance books. Create a pie chart to represent the distribution of book genres. |
|---|---|
| 6 | The test scores of a class of 35 students are: 85, 78, 92, 68, 90, 88, 76, 85, 92, 78, 90, 85, 88, 72, 85, 90, 72, 85, 68, 88, 72, 85, 68, 92, 78, 90, 85, 76, 88, 78, 85, 90, 92, 76. Create a frequency table to show the number of students who scored in each range (e.g., 70-79, 80-89, 90-99). Find mean, media, mode and range. |
| 7 | In a group of 60 people, a survey was conducted to find out their favorite ice cream flavors. The results are as follows: 15 people chose vanilla, 10 chose chocolate, 20 chose strawberry, and the rest chose mint chip. How many people chose mint chips as their favorite flavor? |

| | |
|---|---|
| 8 | In a survey of 50 people, 15 chose summer as their favorite season, 12 chose spring, 10 chose autumn, and the rest chose winter. How many people chose winter as their favorite season? |
| 9 | After a math exam, the teacher recorded the grades of 25 students. Organize the grades in a histogram with appropriate bins (e.g., 60-69, 70-79, etc.). |
| 10 | At a school picnic, 40 students were asked about their fruit preferences. 12 students chose apples, 15 chose bananas, and 8 chose grapes. Create a bar graph to represent the students' fruit preferences. |

# Personalised English & Math Tutoring

## Redeem Free Assessment

# Answer Key

Question 1: Measures of central tendency (mean, median, mode).

| 1 | In a family, the ages of six siblings are 9, 11, 7, 9, 12, and 7. Find the mean, median, and mode of their ages. [NO CALC] Answer: <br><br> Mean: (9 + 11 + 7 + 9 + 12 + 7) / 6 = 55 / 6 ≈ 9.1667 <br> Median: 9 <br> Mode: 7 and 9 |
|---|---|
| 2 | Record the daily temperatures in degrees Celsius for a week: 20, 22, 23, 21, 20, 22, 23. Find the mean, median, and mode of the temperatures. [NO CALC] Answer: <br><br> Mean: 21.5714 <br> Median: 22 <br> Mode: 20, 22, and 23 (all are modes) |
| 3 | The monthly allowances (in dollars) for a group of friends are: 40, 30, 20, 40, 30, 50, 20, 40. Find the mean, median, and mode of the monthly allowances. [NO CALC] Answer: <br><br> Mean: 33.75 <br> Median: 35 <br> Mode: 40 |
| 4 | Problem: The prices of books (in dollars) at a bookstore are: 15, 20, 25, 15, 30, 20, 25, 15, 20. Find the mean, median, and mode of the book prices. [NO CALC] Answer: <br><br> Mean: 20.556 <br> Median: 20 <br> Mode: 15, 20 |

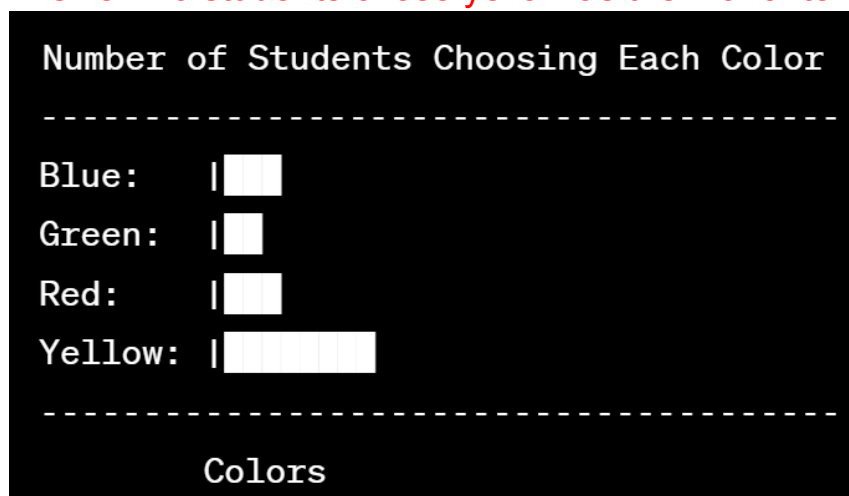| 5 | The shoe sizes of students in a class are:<br>6, 7, 8, 9, 8, 7, 8, 6, 9, 6, 8, 7, 8, 9, 7.<br>Find the mean, median, and mode of the shoe sizes.<br>Answer:<br><br>Mean: 7.533<br>Median: 8<br>Mode: 8 |
|---|---|
| 6 | The prices of apples (in dollars) at a market are:<br>1.25, 1.50, 1.25, 1.75, 1.25, 1.50, 1.50.<br>Find the mean, median, and mode of the prices.<br>Answer:<br><br>Mean: 1.4286 (approximately)<br>Median: 1.50<br>Mode: 1.25, 1.50 |
| 7 | In a class of 20 students, the scores on a math test were as follows:<br>85, 72, 88, 90, 68, 92, 78, 85, 72, 85, 68, 90, 88, 72, 78, 85, 92, 90, 68, 88. Find the mean, median, and mode of the scores.<br>Answer:<br><br>Mean: 81.7<br>Median: 85<br>Mode: 85 |
| 8 | In a survey, 50 people were asked their favorite ice cream flavors. The results are as follows: 12 people chose vanilla, 15 chose chocolate, 8 chose strawberry, 7 chose mint chip, and 8 chose cookie dough. Find the mean, median, and mode of the survey results.<br>Answer:<br><br>Mean: 10<br>Median: No single median (since there are multiple modes)<br>Mode: Vanilla and chocolate |

| 9 | The test scores of a class of 25 students are: 85, 76, 88, 92, 76, 90, 85, 78, 68, 72, 85, 76, 88, 90, 72, 85, 90, 92, 78, 68, 88, 72, 85, 68, 92. Find the mean, median, and mode of the test scores. |
|---|---|
| | Answer: |
| | Mean: 81.56 |
| | Median: 85 |
| | Mode: 85 |
| 10 | The test scores of a class of 30 students are: 78, 82, 88, 78, 90, 85, 88, 92, 85, 78, 90, 82, 85, 88, 72, 85, 92, 90, 82, 78, 88, 72, 85, 72, 92, 88, 90, 85, 78, 92. Find the mean, median, and mode of the test scores. |
| | Answer: |
| | Mean: 84.3 |
| | Median: 85 |
| | Mode: 85 |

Question 2: Collecting and organizing data.

| 1 | In a class of 30 students, the teacher asked each student their favorite color. The results are as follows: 8 students chose blue, 5 chose green, 7 chose red, and the rest chose yellow. How many students chose yellow as their favorite color? Create a bar graph. |
|---|---|
| | Answer: 10 students chose yellow as their favorite color. |
| |  |
| 2 | A survey was conducted to find out how many students in a school like to read. Out of 200 students surveyed, 140 said they enjoy reading. Organize this information in a table showing the number of students who like and do not like reading. |
| | Answer: |
| | <table> |
| 3 | A fruit basket contains apples, bananas, and oranges. There are 15 apples, 12 bananas, and 20 oranges. Create a bar graph to represent the number of each type of fruit in the basket. Answer: |

For Question 2 table:

| Like Reading | Do Not Like Reading |
|---|---|
| 140 | 60 |

Or

| Category | Number of Students |
|---|---|
| Enjoy Reading | 140 |
| Do Not Enjoy Reading | 200 - 140 = 60 |

```
Number of Each Type of Fruit in the Basket
---------------------------------------------
Apples:   |████|
Bananas:  |██|
Oranges:  |███|
---------------------------------------------
          Types of Fruit
```

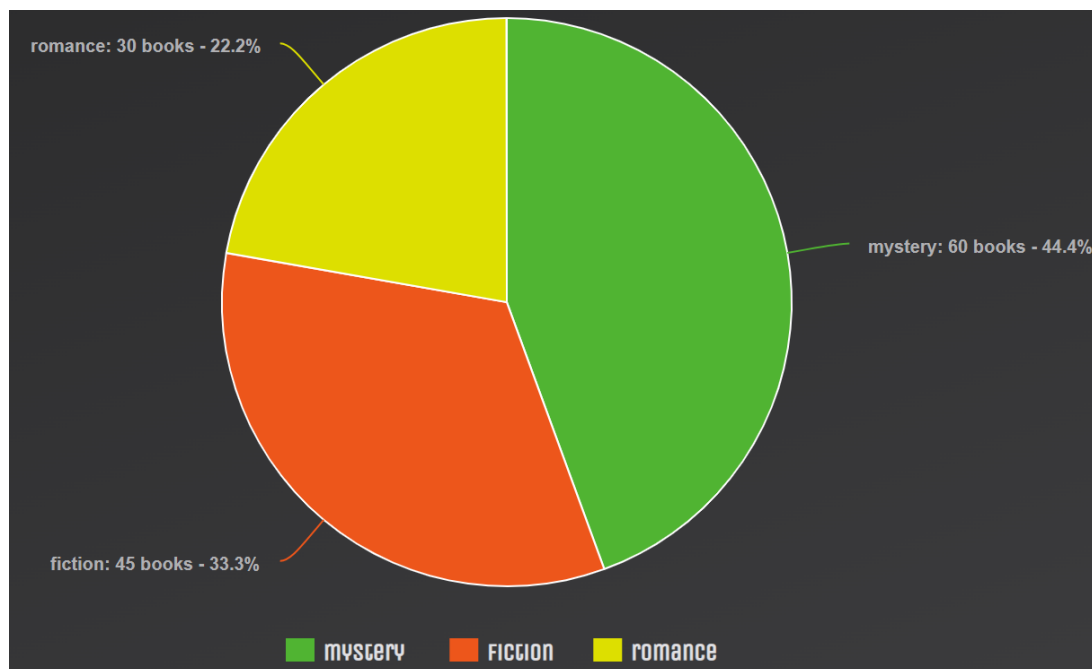| 4 | At an animal shelter, there are 25 dogs, 18 cats, and 7 rabbits. Organize this information in a table to show the number of each type of pet. |
|---|---|
| | **Answer:** |

| Dogs | Cats | Rabbits |
|------|------|---------|
| 25 | 18 | 7 |

Or

| 5 | In the library, there are 60 mystery books, 45 science fiction books, and 30 romance books. Create a pie chart to represent the distribution of book genres. |
|---|---|

**Answer:**



romance: 30 books - 22.2%
mystery: 60 books - 44.4%
fiction: 45 books - 33.3%

■ mystery   ■ fiction   ■ romance

| 6 | The test scores of a class of 35 students are: 85, 78, 92, 68, 90, 88, 76, 85, 92, 78, 90, 85, 88, 72, 85, 90, 72, 85, 68, 88, 72, 85, 68, 92, 78, 90, 85, 76, 88, 78, 85, 90, 92, 76. Create a frequency table to show the number of students who scored in each range (e.g., 70-79, 80-89, 90-99). Find mean, media, mode and range. |
|---|---|

Answer:

| Score Range | Frequency |
|---|---|
| 70-79 | 6 |
| 80-89 | 9 |
| 90-99 | 20 |

| | |
|---|---|
| **Mean $\overline{x}$** | **82.647058823529** |
| **Median $\widetilde{x}$** | **85** |
| **Mode** | **85** |
| Range | 24 |

| 7 | In a group of 60 people, a survey was conducted to find out their favorite ice cream flavors. The results are as follows: 15 people chose vanilla, 10 chose chocolate, 20 chose strawberry, and the rest chose mint chip. How many people chose mint chips as their favorite flavor? |
|---|---|

Answer:
People who chose vanilla + People who chose chocolate + People who chose strawberry = 15 + 10 + 20 = 45
People who chose mint chip = 60 - 45 = 15 people
15 people chose mint chip as their favorite ice cream flavor.

| 8 | In a survey of 50 people, 15 chose summer as their favorite season, 12 chose spring, 10 chose autumn, and the rest chose winter. How many people chose winter as their favorite season? |
|---|---|

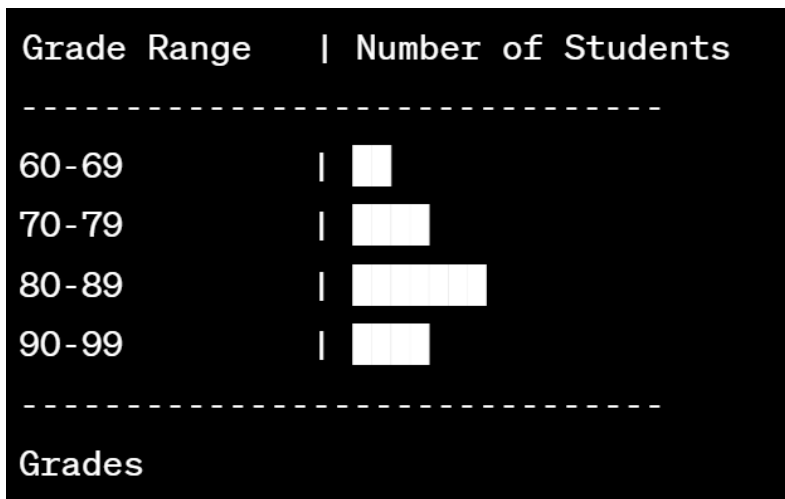Answer: People who chose summer + People who chose spring + People who chose autumn = 15 + 12 + 10 = 37
People who chose winter = 50 - 37 = 13 people
13 people chose winter as their favorite season.

| | |
|---|---|
| 9 | After a math exam, the teacher recorded the grades of 25 students. Organize the grades in a histogram with appropriate bins (e.g., 60-69, 70-79, etc.).<br><br>Answer:<br><br>```<br>Grade Range    | Number of Students<br><br>-------------------------------<br><br>60-69          |  ▢<br>70-79          |  ▢▢<br>80-89          |  ▢▢▢<br>90-99          |  ▢▢<br><br>-------------------------------<br><br>Grades<br>``` |
| 10 | At a school picnic, 40 students were asked about their fruit preferences. 12 students chose apples, 15 chose bananas, and 8 chose grapes. Create a bar graph to represent the students' fruit preferences.<br><br>Answer:<br><br>```<br>Students' Fruit Preferences<br><br>-------------------------------<br><br>Apples:  |▢▢▢▢▢▢<br>Bananas: |▢▢▢▢▢▢▢▢<br>Grapes:  |▢▢▢▢<br><br>-------------------------------<br><br>Fruit Types<br>``` |