

Unit 7 – Data Analysis

Grade 7 Mathematics Exam Review

1. Find the mean of this set of data: 3, 5, 7, 9
2. Find the mode of this set of data: 6, 13, 13, 18, 20
3. Find the mode of this set of data: 13, 20, 20, 26, 26, 26, 30
4. Find the mode of this set of data: 30, 11, 11, 28, 30, 19, 30, 25
5. In the last 3 seasons, Jordan played 53, 61, and 54 games.
What is the mean number of games played?
6. Calculate the mean of this set of data: 8, 17, 29, 11, 14, 5, 20, 26, 23
7. Calculate the mean of this set of data: 11, 12, 13, 14, 15, 16
8. Cecil's practice times, in seconds, for the 400 m race were: 129, 126, 118, 129, 123
What was the mean time?
9. This list gives the collar sizes, in centimetres, of shirts sold in a store:
38, 36, 37, 37, 36, 39, 35, 38, 37, 38, 36, 37
What is the mode collar size?
10. Find the mean and mode of this set of data: 14, 17, 5, 20, 17, 11, 21
11. What number will replace to make this statement true?
The mode is 23 for this set of data: 11, , 27, 23, 25, 19
12. Here are the monthly savings, in dollars, that Mary saved for a year:
31, 34, 26, 46, 46, 46, 28, 28, 37, 39, 36, 35
Find the mean amount of money saved.
13. Find the range of this set of data: 29, 33, 33, 38, 39, 44, 49, 53
14. Find the median of this set of data: 41, 56, 39, 33, 5, 59, 40, 14, 25
15. Ron was in charge of collecting contributions for the Food Bank.
He received \$28, \$43, \$19, \$30, and \$22 from 5 co-workers.
Find the median of these contributions.
16. Find the median of this set of data: 22, 1, 2, 8, 2, 21, 2, 24, 26

17. Which 2 data sets have a median of 26?
P: 26, 30, 19, 27, 22
Q: 20, 30, 28, 26, 27
R: 24, 31, 28, 26, 18
S: 19, 26, 25, 23, 31
18. Which 2 data sets have a range of 11?
P: 25, 29, 18, 26, 21
Q: 19, 30, 27, 25, 26
R: 23, 30, 27, 25, 17
S: 18, 25, 24, 22, 30
19. Find the median of this set of data: 27, 19, 14, 19, 24, 28, 27, 19, 18
20. Find the range of this set of data: 19, 15, 9, 22, 15, 23, 22, 15, 13
21. A sample of 16 boxes of cereal is selected from the production line for quality check.
The masses of the boxes, in grams, are:
302, 312, 311, 296, 291, 305, 296, 308, 305, 296, 315, 296, 315, 311, 315, 311
What is the median mass?
22. A sample of 16 boxes of dried fruit is selected from the production line for quality check.
The masses of the boxes, in grams, are:
139, 149, 148, 133, 128, 142, 133, 145, 142, 133, 152, 133, 152, 148, 152, 148
What is the range of the masses?
23. Find the median and the range of this set of data: 46, 52, 48, 35, 55, 52, 56, 40
24. The hourly wages, in dollars, of 10 students are: 9, 10, 8, 11, 6, 6, 5, 6, 9, 7
Find the median and the mode.
25. Identify the outlier in this set of data: 13, 14, 17, 12, 18, 2, 17
26. Identify the outlier in this set of data: 9, 10, 13, 8, 26, 11, 13
27. Identify the outlier of this set of data: 18, 37, 19, 24, 17, 20, 23, 15
28. Identify the outlier of this set of data: 5.8, 6.9, 4.4, 6.5, 0.3, 5.1, 4.9, 6.4
29. Identify the outlier in this set of data: 5.3, 8.5, 5.9, 6.1, 5.5, 6.3, 5.7, 6.1
30. Identify the outliers in this set of data: 8.5, 9.5, 10.5, 2.5, 16.5, 7.5, 10.5
31. Which set of data has an outlier of 72?
P: 72, 76, 74, 73, 78
Q: 71, 63, 72, 66, 69
R: 55, 61, 72, 53, 59
S: 74, 67, 66, 76, 72

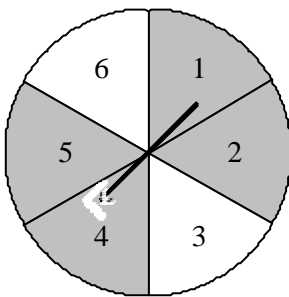
32. Here is a set of data: 20, 21, 14, 33, 17
Calculate the mean without the outlier.
33. Here is a set of data: 35, 9, 33, 26, 33, 29
Calculate the mean without the outlier.
34. Here is a set of data: 41, 39, 36, 44, 43, 24
Find the median without the outlier.
35. Here is a set of data: 18, 24, 22, 16, 18, 20, 39
Find the median without the outlier.
36. Karen collects contributions for a charity run.
She collects these amounts from 5 friends: \$105, \$80, \$85, \$75, \$115
Find the median of the contributions.
37. Bob's scores on 3 history tests are: 63, 74, 69
What is the mean score, rounded to the nearest whole number?
38. Terry's times, in minutes, for his training runs were: 53, 54, 55, 57, 56, 56, 53, 58
Find Terry's average run time.
39. Ms. Farquand keeps a record of sick leave taken by her staff.
The table shows the number of sick days taken last year by 9 employees.

Employee	Number of Sick Days
Earl	2
Chantal	4
Sarita	3
Ryan	1
Simone	5
Davin	4
Javier	6
Marty	2
Martina	8

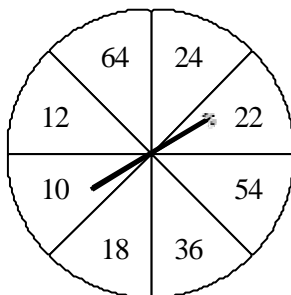
Find the mean number of sick days. Round to 2 decimal places, if necessary.

40. Don receives these marks on 4 math tests: 86, 73, 84, 78
What mark must he get on the next math test to have a mean of 81 for 5 tests?
41. The number of patients treated at Dr. Jason's dental office each day is recorded for 8 days.
Here are the data: 4, 15, 3, 15, 4, 11, 19, 15
Find the mean, median, and mode of the data.

42. Find the mean, median, mode, and range of this set of temperature data.
Temperature ($^{\circ}\text{C}$): 45, 45, 48, 49, 50, 52, 60, 66
43. Mr. King asks his class of 23 students, "What is your age?"
Here are their responses: 13, 16, 13, 12, 16, 17, 17, 13, 12, 13, 14, 15, 15, 13, 14, 12, 13, 12, 15, 15, 13, 14, 15
Find the mean, median, and mode age of the class. Round to 1 decimal place, if necessary.
44. Here are the data for the populations of 10 small towns:
1328, 840, 1275, 1271, 894, 1538, 2045, 1027, 1314, 1826
Find the mean, median, and mode of the data.
45. The letters S, E, M, I, T, R, O, P, I, C, A, and L are written on pieces of paper and placed in a hat.
You draw a letter without looking. Find the probability of drawing the letter I.
46. A box contains 5 red candies, 7 white candies, and 5 blue candies.
A candy is picked at random. Find the probability of picking a candy that is either red or blue.
47. The pointer on this spinner is spun once. What is the probability that the pointer will land on an even number in the unshaded area?



48. A bag contains 7 blue, 5 yellow, 8 red, 4 green, and 6 purple marbles.
A marble is picked at random. Find the probability of picking a marble that is not yellow.
49. A spinner is divided into 10 equal sectors numbered 1 to 10. You spin the pointer on the spinner once. Find the probability of spinning a number that is not 10, not 6, or not 2.
50. This spinner is used in a board game. The pointer of the spinner is spun once.
What is the probability that the spinner will land on a multiple of 3 and 4?



51. Twenty cards are numbered from 1 to 20. One card is drawn without looking.
What is the probability that the number on the card is divisible by 6?
Express the probability as a percent.
52. The names of 24 students are placed in a hat. One name is drawn without looking.
If there are 9 boy's and 15 girl's names, what is the probability that a boy's name is drawn?
Express the probability as a ratio in simplest form.
53. A month is picked at random. What is the probability that its name begins with the letter S?
Express the probability as a ratio in simplest form.
54. Jill wants to buy either a ball pen or an ink pen. Both pens come in 6 styles.
Find the number of possible choices.
55. Mel has 3 different sweaters and 2 different pairs of pants.
How many possible combinations of pants and sweaters can he wear?
56. A yogurt shop offers 7 flavours of frozen yogurt and 8 toppings.
How many choices are possible for a single flavour frozen yogurt with 1 topping?
57. A spinner is divided into 12 equal sectors, 8 in red and 4 in green.
The pointer of the spinner is spun once. What is the probability of it landing on red?
58. Use a tree diagram to find how many ways you can arrange the letters in DOG.
59. A coin is tossed and a die labelled 1 to 6 is rolled.
What is the probability of getting a tail on the coin and an odd number on the die?
60. Grace wants to find the probability of having 2 boys and 1 girl in a family of 3 children.
She tosses 3 coins with a head representing a boy and a tail representing a girl.
What is the probability of having 2 boys and 1 girl?
61. A set of 2 red cards is numbered from 1 to 2. A set of green cards is numbered from 1 to 3.
The 2 sets of cards are shuffled and a card is drawn without looking.
What is the probability that the number on the card is even?
62. Two spinners are each divided into 4 equal sectors. Spinner P has 2 blue sectors and 2 red sectors. Spinner Q has 2 blue sectors, 1 red sector, and 1 green sector.
The pointers on both spinners are spun once. What is the probability of spinning a red on each spinner?
63. Two spinners are each divided into 4 equal sectors. Spinner P has 2 blue sectors and 2 red sectors. Spinner Q has 2 blue sectors, 1 red sector, and 1 green sector.
The pointers on both spinners are spun once. What is the probability of spinning a blue on each spinner?
64. Mr. Crooks has 4 plain shirts and 2 striped shirts. He also has 2 plain ties and 3 striped ties.
He picks a shirt and a tie without looking.
What is the probability of getting a striped shirt and a striped tie?

Unit 7 - Answer Key

1. 6
2. 13
3. 26
4. 30
5. 56
6. 17
7. 13.5
8. 125 s
9. 37
10. Mean: 15, mode: 17
11. 23
12. \$36
13. 24
14. 39
15. \$28
16. 8
17. P and R
18. P and Q
19. 19
20. 14
21. 306.5 g
22. 24 g
23. Range: 21, median: 50
24. Median: \$7.50, mode: \$6.00
25. 2
26. 26
27. 37
28. 0.3
29. 8.5
30. 2.5 and 16.5
31. R
32. 18
33. 31.2
34. 41
35. 19
36. \$85
37. 69
38. 55.25 m
39. 3.89
40. 84
41. Mean: 10.75, median: 13, mode: 15
42. Mean: 51.9, median: 49.5, mode: 45, range: 21
43. Mean: 14, median: 14, mode: 13
44. Mean: 1336, median: 1294.5, no mode
45. $\frac{1}{6}$
46. $\frac{10}{17}$
47. $\frac{1}{6}$
48. $\frac{5}{6}$
49. $\frac{7}{10}$
50. $\frac{3}{8}$
51. 15%
52. 3:8
53. 1:12
54. 12
55. A6
56. 56
57. $\frac{2}{3}$
58. 6 ways
59. $\frac{1}{4}$
60. $\frac{3}{8}$
61. $\frac{2}{5}$
62. $\frac{1}{8}$
63. $\frac{1}{4}$
64. $\frac{1}{5}$