



Englische Übungen zu Statistik

1. A group of students is asked about their monthly pocket money in a survey. The results are (in €): 12, 20, 5, 9, 30, 40, 15, 20, 30, 20, 30, 30, 10, 15, 30, 40, 48, 15, 18, 25, 28, 45, 8, 10, 25
 - a. Find the mean, median and mode of the data. What is the maximum and minimum pocket money?
 - b. Divide the values into five equal-sized groups. Use a table to write down the frequency of each group.
 - c. Approximate the mean of the grouped data by using the midpoint of each group.
 - d. Use the table to draw a histogram of the monthly pocket money.

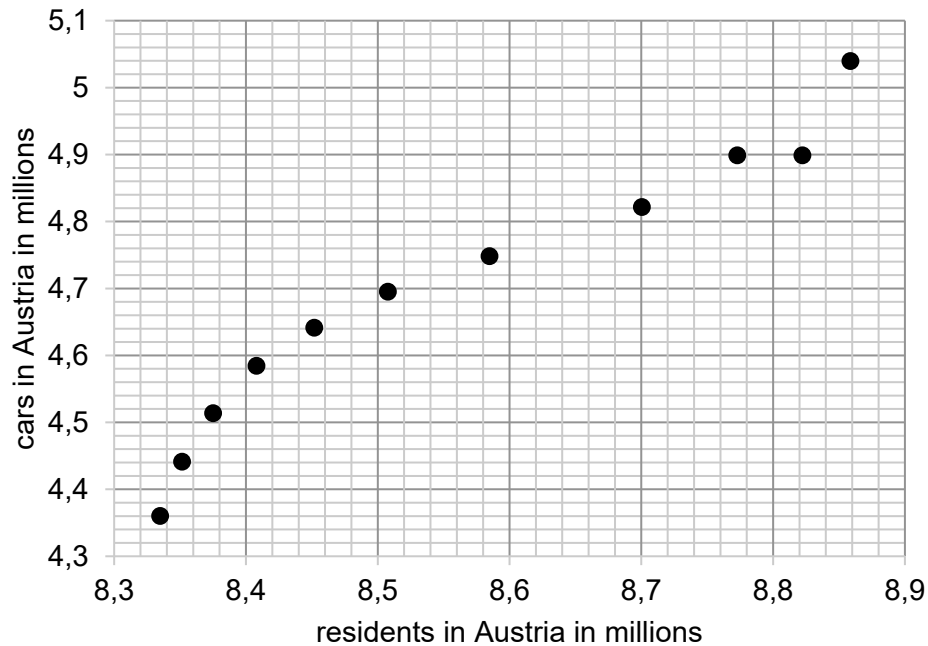
2. The table shows how many male and female students said that English is their best grade.
 - a. Fill in the gaps. Calculate the percentage of students with English as the best grade for male and female students.
 - b. Do more men or women say that English is their best grade?

English best grade	male students	female students	total
yes	157	68	
no	451	220	
total			





3. The scatter graph shows the relationship between the number of residents and cars in Austria. (source: statista.de, 2020; years: 2009-2019)
Is there any correlation between the number of residents and the number of cars in Austria? Find reasons for the type of correlation.



Vocabulary

Englisch	Deutsch
survey	Umfrage
mean	arithmetisches Mittel
median	Median
mode	Modus
equal-size group	gleich breite Klasse
table	Tabelle
frequency (of a group)	Häufigkeit (in einer Klasse)
to approximate	annähern
grouped data	in Klassen eingeteilte Daten
midpoint of a group	Klassenmitte
histogram	Histogramm
grade	Note
percentage	Prozentsatz, relativer Anteil
scatter graph	Punktwolkendiagramm
relationship between	Zusammenhang zwischen
correlation	Zusammenhang (von Datensätzen)





Solutions

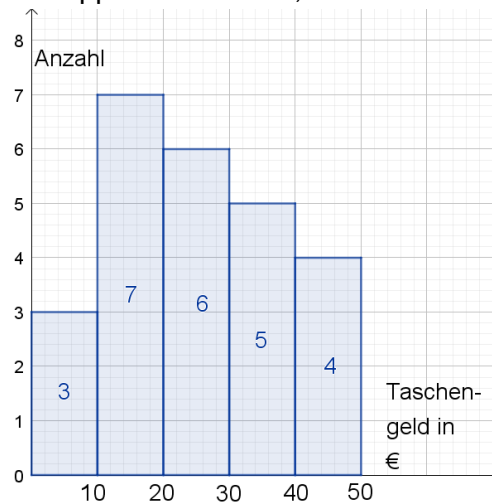
1.

- a. mean: 23.1 €; median: 20 €; modus: 30 €; minimum: 5 €; maximum: 48 €
b.

pocket money (in €)	frequency
$0 \leq x < 10$	3
$10 \leq x < 20$	7
$20 \leq x < 30$	6
$30 \leq x < 40$	5
$40 \leq x < 50$	4

- c. $(5 \cdot 3 + 15 \cdot 7 + 25 \cdot 6 + 35 \cdot 5 + 45 \cdot 4) : 25 = 25$

The approximation is 1,9 € less than exactly calculated mean.



d.

2.

a.

English best grade	Male students	Female students	total
Yes	157 // 17.5%	68 // 7,6%	225// 25.1%
No	451 // 50.3%	220 // 24,6%	671// 74.9%
total	608// 67,8 %	288// 32,2%	896// 100%

- b. There are 225 students, who say that English is their best grade. Only $\frac{68}{225} \approx 30,2 \%$ of that students are female. Therefore more male students say that English is their best grade.

3. The two sets of data show a positive correlation. As the number of residents increases the number of cars increase with one acception. It can be assumed that these two things are connected.

