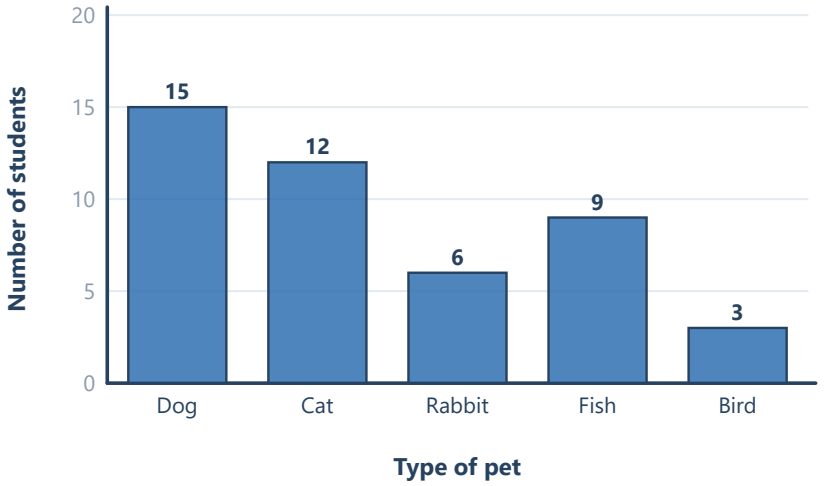
GCSE Maths: Bar charts, pictograms and line charts (Higher): answers

GCSE Maths - Statistics - Higher - Lesson 24.6

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at **websink.site/gcse/maths/ch24-statistics/higher/bar-charts-pictograms-and-line-charts/**

Exercise 24F Bar charts, pictograms and line charts Non-calculator

1 The bar chart shows the pets owned by the students in a class.
(a) How many students have a cat? (b) Which is the most common pet? (c) How many more students have a dog than a rabbit? (d) How many students are there in the class? (e) What fraction of the class have a fish? Give your answer in its simplest form.



(a) Students with a cat

Answer: 12

(b) Most common pet

Answer: Dog

(c) How many more dogs than rabbits

Answer: 9

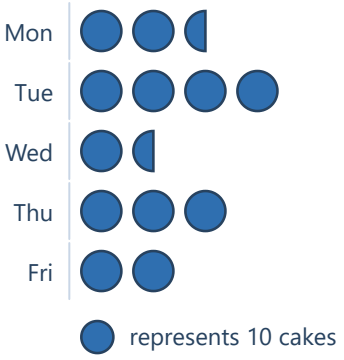
(d) Students in the class

Answer: 45

(e) Fraction with a fish

Answer: $\frac{1}{5}$

2 The pictogram shows the number of cakes sold in a shop. One symbol stands for 10 cakes.
(a) How many cakes were sold on Monday? (b) How many cakes were sold on Wednesday? (c) How many cakes were sold in the five days? (d) On which day were twice as many cakes sold as on Friday?



(a) Cakes on Monday

Answer: 25

(b) Cakes on Wednesday

Answer: 15

(c) Total cakes

Answer: 130

(d) Day with twice as many as Friday

Answer: Tuesday

3 **Draw a pictogram for the number of apples sold in a shop: Monday 30, Tuesday 45, Wednesday 20, Thursday 35. Use one symbol to stand for 10 apples.**

Answer: See the pictogram in the solution

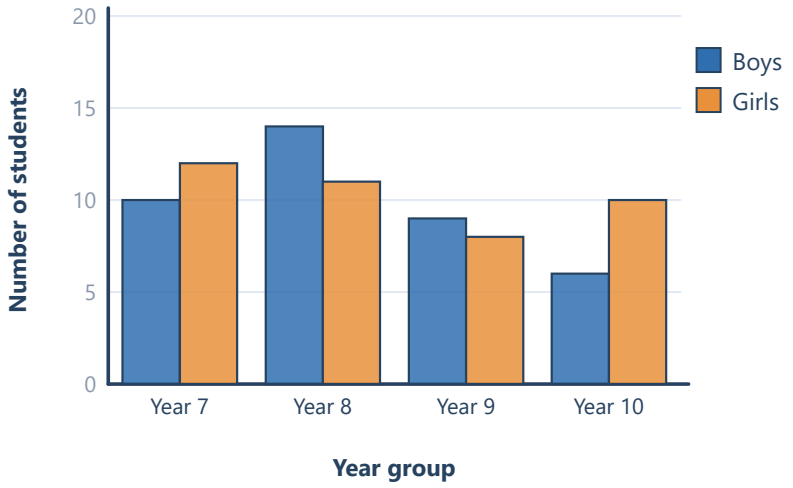
4 **The table shows the favourite sport of 40 students.**

Sport	Frequency
Football	11
Netball	8
Rugby	5
Tennis	9
Hockey	7

Draw a bar chart to show this information.

Answer: See the bar chart in the solution

5 **The dual bar chart shows the numbers of boys and girls who joined clubs in four year groups.**
(a) How many girls joined in Year 8? (b) In which year group did more boys than girls join? (c) How many students joined altogether?



(a) Girls in Year 8

Answer: 11

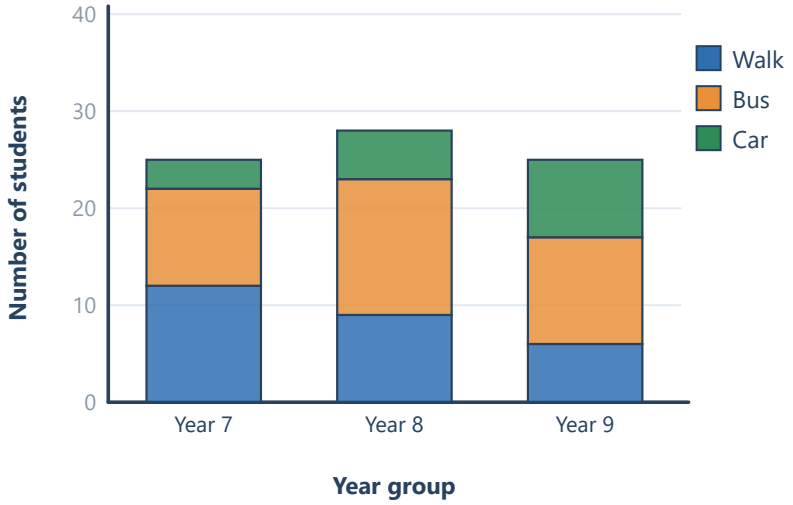
(b) Year groups with more boys

Answer: Year 8 and Year 9

(c) Total students

Answer: 80

6 **The composite bar chart shows how students in three year groups travel to school. (a) How many students are in Year 8? (b) How many Year 9 students come by car? (c) Which year group has the most students?**



(a) Students in Year 8

Answer: 28

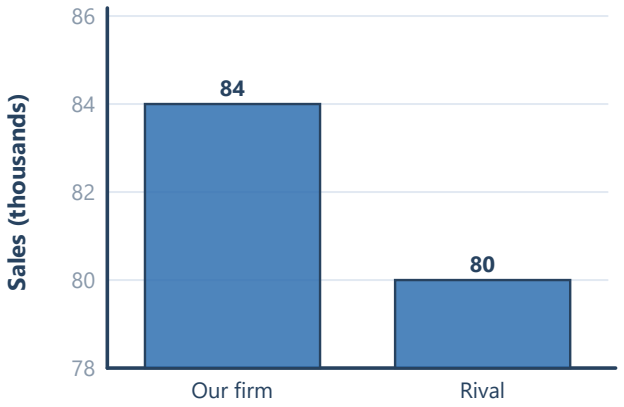
(b) Year 9 by car

Answer: 8

(c) Year group with most students

Answer: Year 8

7 **A company draws this chart to show that its sales are “much higher” than its rival’s. Explain why the chart is misleading.**



Answer: The vertical axis starts at 78 not 0, so the small difference between 84 and 80 looks big.

8 **Say which type of chart is best for each set of data and give a reason.**

(a) The numbers of students choosing each of five school lunches

Answer: Bar chart

(b) The number of goals scored in each of 30 matches (0, 1, 2, 3, 4)

Answer: Vertical line chart

(c) How the temperature in a room changes over a day

Answer: Line graph

9 **In a pictogram, one symbol stands for 8 students. Tom draws 3 whole symbols and 1 half symbol for the number of students who walk to school. How many students walk?**

Answer: 28

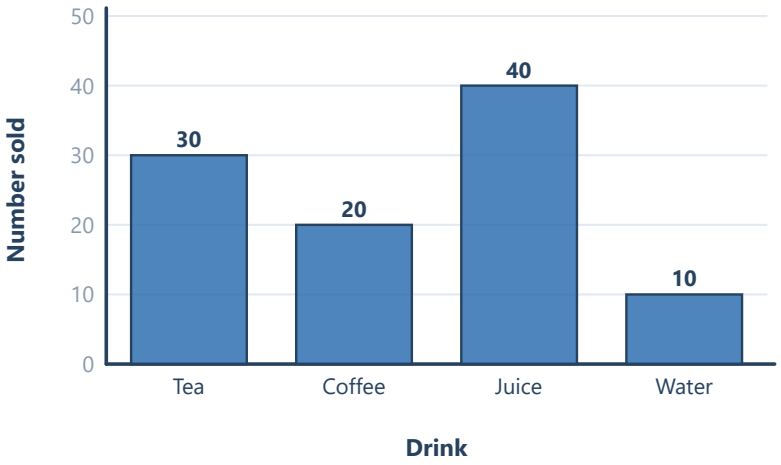
10 **Class A has 25 students and 10 of them chose pizza. Class B has 16 students and 8 of them chose pizza. Ana says: "More students in Class A chose pizza, so pizza is more popular in Class A." Is she right? Explain.**

Answer: No: in Class A 40% chose pizza, but in Class B 50% did.

11 **In a pictogram, Mon shows 2 whole symbols and a half symbol. Tue shows 4 symbols. Wed shows 3 and a half symbols. The total for the three days is 100 items. Work out the number of items one symbol stands for, then the number of items on Tuesday.**

Answer: 10 items per symbol; Tuesday 40

12 **The bar chart shows the drinks sold at a kiosk one afternoon.**
(a) Which drink sold least? (b) How many more cups of juice than coffee were sold? (c) What percentage of the drinks sold were tea?



(a) Drink that sold least

Answer: Water

(b) Juice minus coffee

Answer: 20

(c) Percentage that were tea

Answer: 30%

13 **Zoe draws a bar chart of the numbers of students in four clubs. She makes the bar for chess twice as wide as the others, and her vertical axis starts at 8, not 0. Give two reasons why her chart could mislead someone.**

Answer: Unequal bar widths make one bar look bigger; an axis that does not start at 0 exaggerates differences.

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