National 5 Applications of Mathematics

Making fractions add to 1

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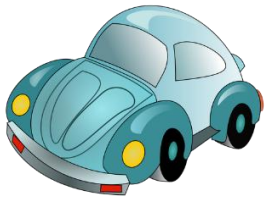
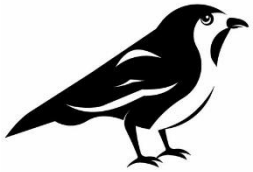
1. Our school surveyed how students travel to school.

- $\frac{1}{3}$ of the students walk to school.
- $\frac{2}{5}$ of the students come by bus.
- The rest of the students are dropped off by car.



Calculate the fraction of students who come to school by car.



2. A nature group recorded the types of birds visiting a feeder.

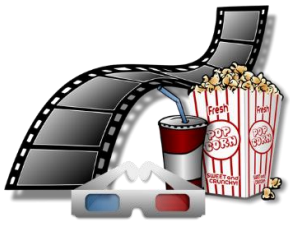
- $\frac{4}{9}$ of the birds were sparrows.
- $\frac{1}{6}$ of the birds were chaffinches.
- The remainder were starlings.

Calculate the fraction of birds that were starlings.

3. A gardener divided a flowerbed into three sections.

- She planted $\frac{3}{10}$ of the bed with roses.
- She planted $\frac{1}{2}$ of the bed with lupins.
- The rest of the bed was planted with tulips.

Calculate the fraction of the flowerbed planted with tulips.



4. A group of teenagers were asked about their weekend plans.

- $\frac{2}{7}$ planned to go and play a sport.
- $\frac{1}{3}$ planned to stay at home.
- The remainder planned to go to the cinema.

Calculate the fraction who planned to go to the cinema.

5. A librarian sorted a delivery of new books.

- $\frac{2}{5}$ of the books were fiction.
- $\frac{3}{8}$ of the books were non-fiction.
- The rest were children's picture books.

Calculate the fraction of the delivery that were picture books.

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6. A local council analysed the contents of household recycling bins.

- $\frac{5}{12}$ of the waste was paper and card.
- $\frac{1}{4}$ of the waste was plastic.
- The remainder was glass.

Calculate the fraction of the recycling that was glass.

7. A student checked the storage usage on their phone.

- $\frac{4}{15}$ of the storage is used for photos.
- $\frac{2}{3}$ of the storage is used for apps.
- The rest of the storage is free space.

Calculate the fraction of the storage that is free space.

8. A survey was taken of people attending a music festival.

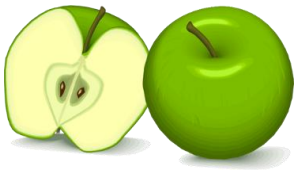
- $\frac{1}{6}$ of the attendees were under 18.
- $\frac{3}{5}$ of the attendees were aged between 18 and 30.
- The remainder were over 30.

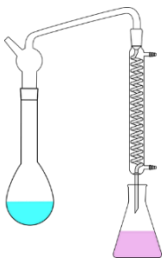
Calculate the fraction of attendees who were over 30.

9. A farmer sorted a harvest of apples into three categories.

- $\frac{5}{12}$ of the apples were sold to supermarkets.
- $\frac{1}{3}$ of the apples were sent to a juicing factory.
- The rest were sold at the farm shop.

Calculate the fraction of apples sold at the farm shop.





10. Students were asked to pick their favourite science subject.

- $\frac{2}{9}$ of the students chose Physics.
- $\frac{3}{5}$ of the students chose Biology.
- The remainder chose Chemistry.

Calculate the fraction of students who chose Chemistry.

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11. A survey of train tickets was conducted at a train station.

- $\frac{4}{7}$ of the passengers had a season ticket.
- $\frac{1}{4}$ of the passengers had a day return.
- The rest of the passengers bought a single ticket.

Calculate the fraction of passengers who bought a single ticket.

12. A gardener used his allotment to grow three types of vegetables.

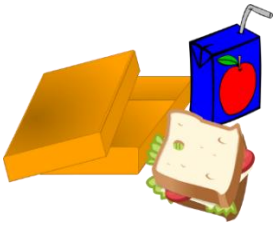
- $\frac{3}{10}$ of the allotment was used for potatoes.
- $\frac{4}{15}$ of the allotment was used for onions.
- The remainder was used for carrots.

Calculate the fraction of the allotment used for carrots.

13. We surveyed our class about their lunch on school days.

- $\frac{3}{10}$ go outside school to buy their lunch.
- $\frac{1}{4}$ eat school dinner.
- The rest of the pupils bring a packed lunch to school.

Find the fraction of pupils who bring a packed lunch.



14. Ahead of a referendum vote, a sample of voters was polled.

- $\frac{3}{8}$ said that they intended to vote 'yes'.
- $\frac{2}{5}$ said that they intended to vote 'no'.
- The remainder were undecided.

Calculate the fraction of the voters who were undecided.

15. A baker prepared a large batch of muffins.

- $\frac{2}{9}$ of the muffins were chocolate.
- $\frac{1}{2}$ of the muffins were plain.
- The rest of the muffins were blueberry.

Calculate the fraction of the muffins that were blueberry.