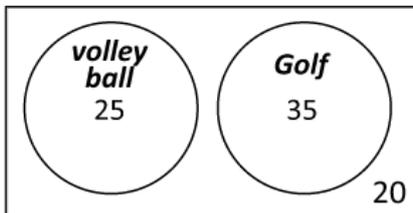


Year 8 Class 4 questions

Q1

This shows what the Year 9 students play for school sport.



How many students play volleyball?

How many students do not play golf?

How many students play neither volleyball nor golf?

Q2

Year 8 students were given a choice to study Art or Design.

	Art	Design	Total
Boys	24	41	65
Girls	15	43	58
Total	39	84	123

What percentage of the boys are taking Art?

 % (1 d.p)

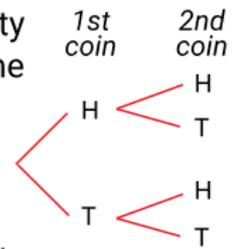
What percentage of the students who chose Design are girls?

 % (1 d.p)

Q3

The tree diagram shows the results when tossing two coins.

What is the probability of tossing a tail on the first coin?

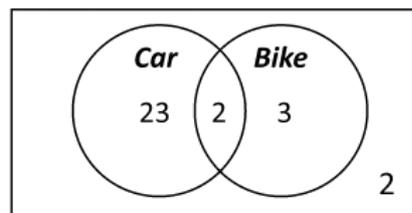


What is the probability of tossing two heads?

What is the probability of tossing a head and a tail in that order?

Q4

Residents in an apartment block were asked if they owned a car or a bike.



How many car owners also owned a bike?

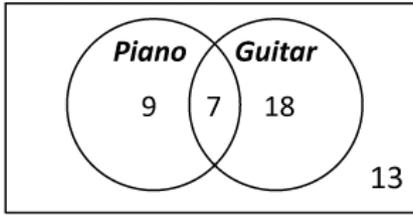
How many residents owned neither a car nor a bike?

What percentage of the residents owned both a car and a bike?

 % (1 d.p.)

Q5

Ms Swifty's music students were asked what instruments they play.



How many play neither the piano nor the guitar?

What percentage play both piano and guitar? % (1 d.p.)

Find the probability a student chosen at random plays the guitar.

% (1 d.p.)

Q6

This table shows the hand most used by children at a day-care centre.

	Right-hand	Left-hand
Boys	34	8
Girls	32	6

Find the probability a child chosen at random is a left-handed boy.

%

Find the probability a child chosen at random is a right-handed girl.

%

Find the probability a child chosen at random is left-handed.

%

Q7

This table shows the hand most used by children at a day-care centre.

	Right-hand	Left-hand
Boys	25	3
Girls	30	2

What percentage of the children who use their right hand the most are girls?

% (1 d.p.)

What percentage of boys use their left hand the most?

% (1 d.p.)

Q8

A hotel offers guests a choice of selecting one of either toast, cereal or fruit for breakfast. Each comes with a choice of either tea or coffee. One of these combinations is chosen at random.

Draw a tree diagram to help answer the question.

Find the probability that toast is chosen for breakfast.

Find the probability that a guest chooses cereal with coffee.

Find the probability that a guest chooses cereal or tea but not both.

Q9

Three cards labelled A, B and C are placed in a hat. Connor chooses one card, then replaces it before choosing a second card. Draw a tree diagram to help answer the question.

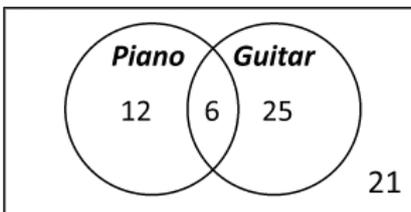
Find the probability that card C is chosen first.

Find the probability that cards A and B are chosen (in any order).

Find the probability that both cards are the same.

Q10

Mr Springsteen's music students were asked what instruments they play.



How many play both the piano and the guitar?

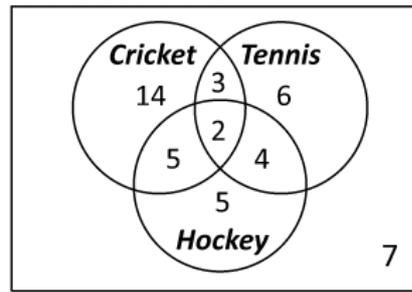
What percentage play neither the piano nor the guitar? % (1 d.p.)

Find the probability a student chosen at random plays the piano.

% (1 d.p.)

Q11

Students in Mr Beacroft's classes were asked which summer sports they play.



How many students play tennis only?

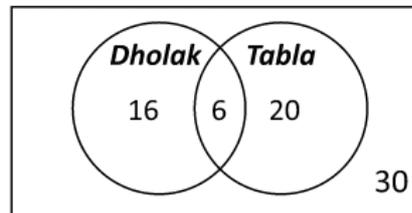
Of those who play hockey, how many also play tennis?

What percentage of those who play cricket play at least one other sport?

% (1 d.p.)

Q12

Mr Krishna's music students were asked what instruments they play.



How many of those who play tabla also play Dholak?

What percentage of those who play Dholak also play tabla? % (1 d.p.)

Find the probability a student chosen at random plays both Dholak and tabla?

Q13

32 students are in a class. 18 own a cat, 8 own both a dog and a cat and there are 5 who own neither. Complete the table.

	Dog	No dog	Total
Cat	8	<input type="text"/>	<input type="text"/>
No Cat	<input type="text"/>	5	<input type="text"/>
Total	<input type="text"/>	<input type="text"/>	32

How many own a dog?

What percentage of cat owners also own a dog? % (1 d.p.)

Q14

30 students are in a class. 19 own a dog, 7 own both a dog and a cat and there are 4 who own neither. Complete the table.

	Dog	No dog	Total
Cat	7	<input type="text"/>	<input type="text"/>
No Cat	<input type="text"/>	4	<input type="text"/>
Total	19	<input type="text"/>	30

How many own a cat?

What percentage of cat owners also own a dog? %

Q15

30 students are in a class. 17 own a bike, 9 own both a bike and scooter and 6 own neither. Complete the table.

	Bike	No bike	Total
Scooter	9	<input type="text"/>	<input type="text"/>
No scooter	<input type="text"/>	6	<input type="text"/>
Total	<input type="text"/>	<input type="text"/>	30

How many own a scooter?

What percentage of bike owners also own a scooter? % (1 d.p.)

Q16

James is playing a videogame. Each time he finishes a level he is awarded a randomly chosen bronze, silver or gold coin. James has completed two levels.

What is the probability he is awarded a bronze or silver coin on the first level?

What is the probability he is awarded a gold coin on both levels?

What is the probability he is awarded two coins of different colours?

Q17

At a wedding reception guests have a choice of a chicken, beef or vegetarian meal. Each comes with a choice of either dessert or a cheese platter.

Find the probability a guest chooses the beef meal with a dessert.

Find the probability a guest chooses the cheese platter.

Find the probability a guest chooses either chicken or dessert but not both.

Q18

A box contains an orange, an apple, a pear and a banana. Sue takes one piece of fruit at random and eats it. Ian then takes a piece of fruit at random from the box.

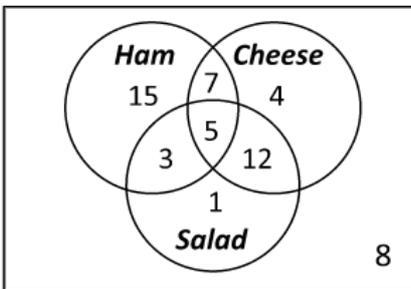
What is the probability that Sue chooses an apple?

What is the probability that Sue chooses an orange and Ian chooses a banana?

What is the probability that an apple and a pear are chosen?

Q19

This shows the sandwich fillings made for a catered function.



How many sandwiches have neither ham nor cheese?

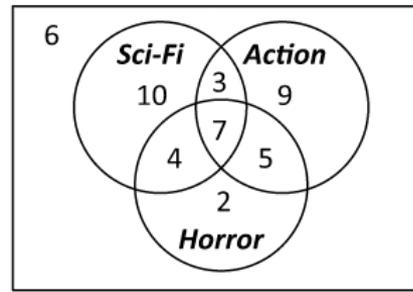
What percentage have ham and cheese but no salad? % (1 d.p.)

Find the probability a sandwich picked at random has ham on it.

% (1 d.p.)

Q20

Students in Mr Kent's maths classes were asked what movie genres they like.



How many like both Horror and Action?

What percentage of students who like Horror also like Sci-Fi?

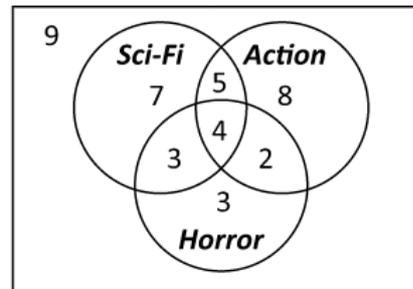
% (1 d.p.)

Find the probability a student chosen at random does not like Sci-Fi.

% (1 d.p.)

Q21

Students in Mr Allen's maths classes were asked what movie genres they like.



How many like both Sci-Fi and Action?

What percentage like all three genres?

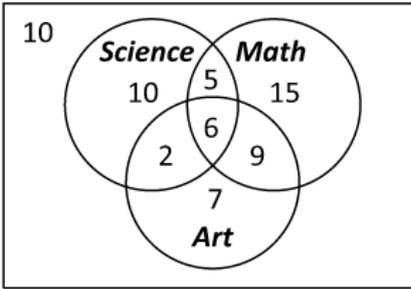
% (1 d.p.)

Find the probability a student chosen at random does not like Horror.

% (1 d.p.)

Q22

Students in class were asked which subject they like.



How many like both Science and Mathematics?

What percentage like all three subjects?
 % (1 d.p.)

How many like both Art and Science but not Mathematics?

Q23

A travel company offers 15 tours. 9 of the tours include mountain climbing, 7 include diving and 5 tours include both mountain climbing and diving. Complete the table.

	Mountain Climbing	No Mountain Climbing	Total
Diving	<input type="text"/>	<input type="text"/>	<input type="text"/>
No Diving	<input type="text"/>	<input type="text"/>	<input type="text"/>
Total	<input type="text"/>	<input type="text"/>	<input type="text"/>

How many tours include mountain climbing but not diving?

What percentage of the diving tours also include mountain climbing?
 % (1 d.p.)

Q24

A travel company offers 20 tours. 8 tours include climbing, 12 tours include diving and 5 include both climbing and diving. Complete the table.

	Climbing	No Climbing	Total
Diving	<input type="text"/>	<input type="text"/>	<input type="text"/>
No Diving	<input type="text"/>	<input type="text"/>	<input type="text"/>
Total	<input type="text"/>	<input type="text"/>	<input type="text"/>

How many tours include climbing but not diving?

What percentage of the climbing tours also include diving? %

Q25

A travel company offers 25 tours. 9 tours include climbing, 16 tours include diving and 6 include both climbing and diving. Complete the table.

	Climbing	No Climbing	Total
Diving	<input type="text"/>	<input type="text"/>	<input type="text"/>
No Diving	<input type="text"/>	<input type="text"/>	<input type="text"/>
Total	<input type="text"/>	<input type="text"/>	<input type="text"/>

How many tours include diving but not climbing?

What percentage of the diving tours also include climbing? %

Q26

A travel company offers 75 tours. 27 tours include diving, 48 tours include climbing and 18 include both climbing and diving. Complete the table.

	Climbing	No Climbing	Total
Diving	<input type="text"/>	<input type="text"/>	<input type="text"/>
No Diving	<input type="text"/>	<input type="text"/>	<input type="text"/>
Total	<input type="text"/>	<input type="text"/>	<input type="text"/>

How many tours include diving but not climbing?

What percentage of the climbing tours do not include diving? %

Q27

Three cards labelled 1, 2 and 3 are placed in a hat. Two cards are chosen one at a time and placed next to each other to form a two digit number.

What is the probability that the number is even?

What is the probability that the number is prime?

If this process is done 150 times, how many odd numbers would you expect to get?

Q28

A box contains two pink cricket balls and one red cricket ball. Isaac is given one ball from the box which he keeps and then Ryder is given a second ball.

What is the probability that they are both given a pink ball?

What is the probability that Isaac is given a red ball and Ryder is given a pink ball?

If this process is repeated 30 times, how many times would you expect them both to be given different coloured balls?

Q29

Three cards labelled 4, 5 and 6 are placed in a box. Two cards are chosen one at a time and placed next to each other to form a two digit number.

What is the probability that the number is even?

What is the probability that the number is greater than 50?

If this process is done 150 times, how many odd numbers would you expect to get?

Q30

A bag contains a red, yellow and white football. A ball is picked out of the bag and then replaced before a second ball is chosen.

What is the probability that the red football is chosen twice?

What is the probability that the yellow ball was chosen?

What is the probability that the white ball is chosen second?