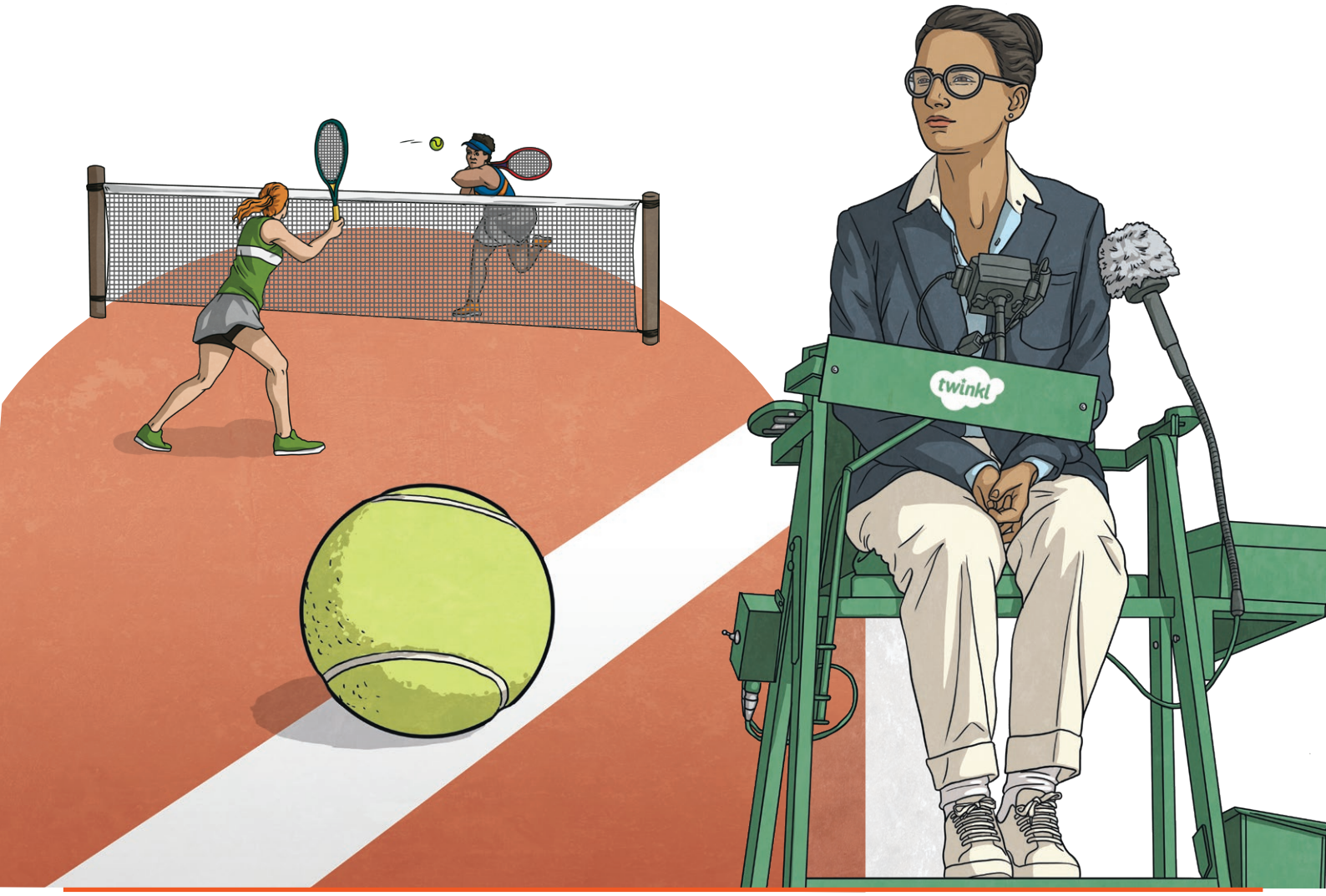
The Mystery of Who Found the Missing Tennis Umpire

This year's prestigious world tennis championships was about to start and the players were all prepared to challenge for the famous trophy. However, just as the last spectators were shown to their seats, disaster struck! The umpire, who was needed to oversee the match, was missing! All of the players immediately jumped into action and searched for the missing umpire. Finally, the championship was ready to roar back into life as one of the players had found the missing umpire!

Solve the clues to reveal which player found the missing tennis umpire.



Name	Shoe Size	Favourite Type of Court	Speed of Serve (mph)	Number of Matches Won	Tennis Racket Brand
Amelia Alterman	11	grass	116	26	Smash
Ben Bowers	9.5	artificial	100	47	Deuce
Cemel Contessa	9	hard	117	55	Cheetah
Daria Diaz	6	clay	141	40	Prospeed
Eva Endover	11	hard	128	90	Ultimate
Fathi Fotonza	10	grass	110	7	Deuce
Grace Gallas	10	clay	107	39	Prospeed
Himmat Hafeez	11	grass	88	90	Smash
Ivaana Indigo	6	artificial	101	20	Cheetah
James Jacks	9.5	hard	123	78	Ultimate
Narinda Nimizzi	9	grass	85	19	Prospeed
Li Lopez	11	clay	98	55	Cheetah
Mariam Mondoza	10	clay	107	51	Prospeed
Kemel Kimura	9.5	grass	132	105	Ultimate
Ola Odyssea	10.5	hard	95	35	Prospeed
Pasha Prince	6	grass	102	66	Smash
Queenie Quarrie	11	clay	108	61	Cheetah
Ruby Rossita	9	clay	127	74	Prospeed
Seren Selassie	10	hard	136	28	Cheetah
Tomek Tuskan	11	clay	142	45	Deuce
Violet Veraz	10	artificial	104	58	Cheetah

Clue 1: Convert Metric Measures

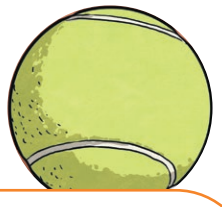
Only one of the measurement conversions in each row is correct.

Shade the correct conversion.

The column with the most correct answers in will reveal a clue about the brand of tennis racket used by the player.

1 tonne = 1000kg

0.1 tonnes	100kg	10kg	1000g	1000kg
2500ml	25l	2.5l	250l	0.25l
3.4km	340m	34m	3400m	34 000m
9500kg	9.5 tonnes	95 tonnes	950 tonnes	0.95 tonnes
800mm	8cm	80cm	0.8cm	0.08cm
$1\frac{1}{2}$m	150mm	15 000mm	15mm	1500mm
0.75km	7500cm	75 000cm	750cm	750 000cm
	Smash, Cheetah or Ultimate	Cheetah, Prospeed or Deuce	Deuce, Ultimate or Smash	Prospeed, Cheetah or Ultimate



Clue 1: The player uses a _____ tennis racket.

Clue 2: Calculate the Area of Parallelograms and Triangles

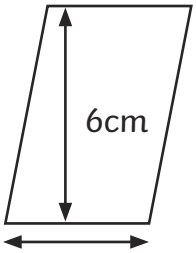
Calculate the area of each parallelogram and triangle.

Shade in the corresponding word in the table for each answer.

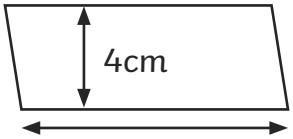
Rearrange the shaded words to make a sentence that reveals some information about the player's favourite type of court.

area of a parallelogram = base × perpendicular height

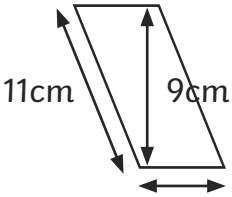
not to scale



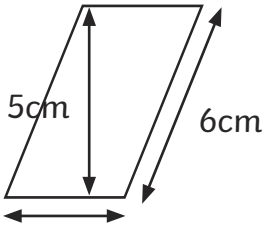
area = _____cm²



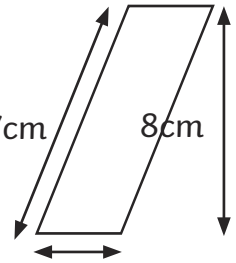
area = _____cm²



area = _____cm²



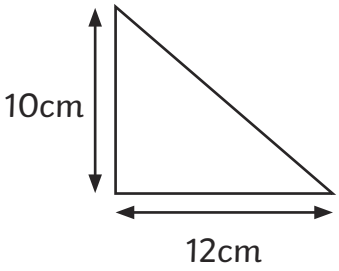
area = _____cm²



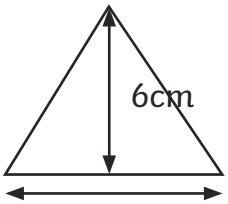
area = _____cm²

area of a triangle = $\frac{1}{2}$ × base × perpendicular height

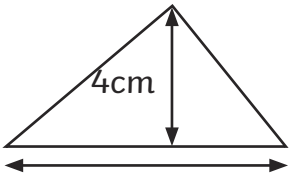
not to scale



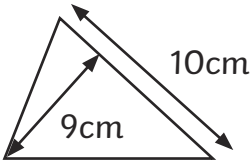
area = _____cm²



area = _____cm²



area = _____cm²



area = _____cm²

27cm² the	31cm² only	30cm² favourite	48cm² artificial	60cm² court
35cm² and	21cm² or	20cm² either	42cm² grass	32cm² player's
28cm² is	33cm² hard	45cm² clay	26cm² just	24cm² tennis

Clue 2: _____.

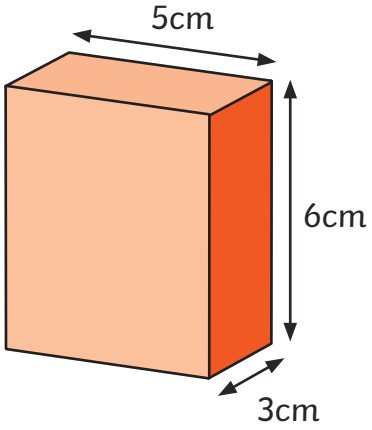
Clue 3: Volume of a Cuboid

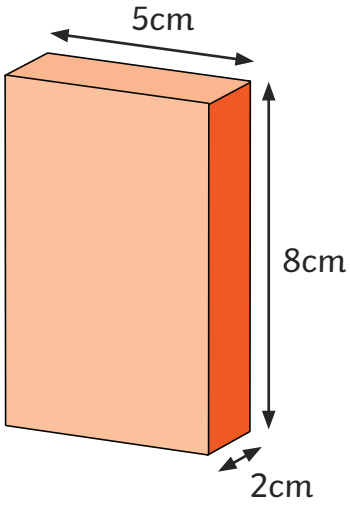
Calculate the volume of these cuboids.

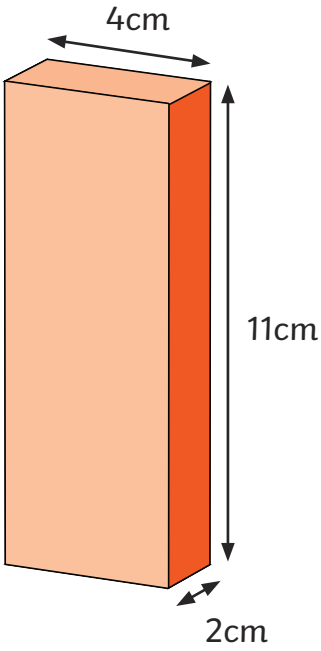
Draw a line to match each shape to its volume in the grid and cross it out.

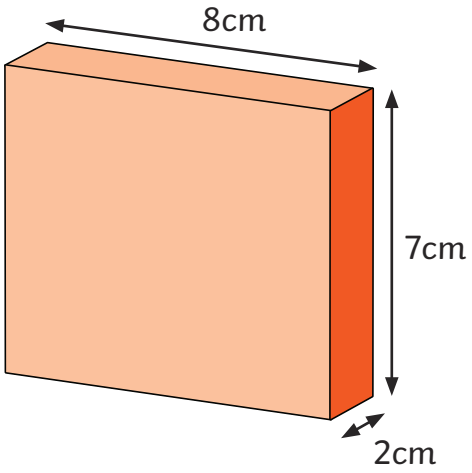
The remaining volume will give you a clue about the serve speed of the player.

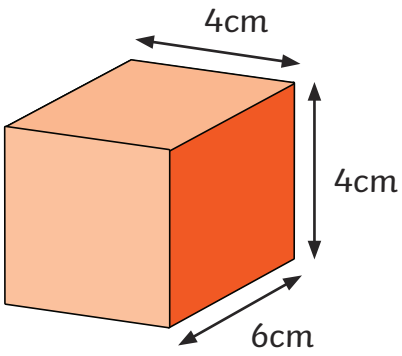
not to scale

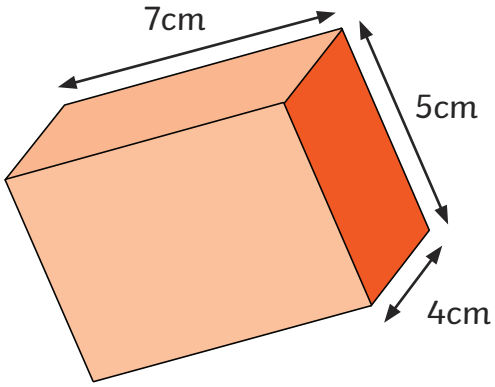












$80cm^3$ between 80mph and 89mph
$96cm^3$ between 90mph and 98mph
$98cm^3$ between 99mph and 109mph
$90cm^3$ between 110mph and 119mph
$140cm^3$ between 120mph and 129mph
$112cm^3$ between 130mph and 139mph
$88cm^3$ over 140mph

Clue 3: The player has a serve speed of _____.

Clue 4: Convert between Miles and Kilometres

Decide if each conversion between miles and kilometres is true or false and tick the correct column.

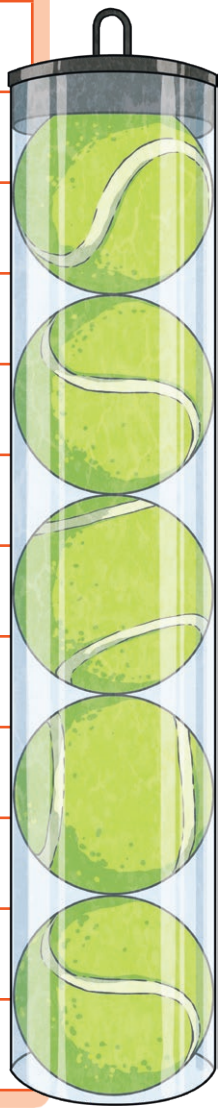
If there are more true answers, the player has won **more than 50 matches.**

If there are more false answers, the player has won **fewer than 50 matches.**

The symbol ≈ means approximately equal to.

5 miles ≈ 8km

	True	False
10 miles ≈ 16km		
25 miles ≈ 48km		
100 miles ≈ 160km		
0.5 miles ≈ 0.8km		
55 miles ≈ 98km		
32km ≈ 20 miles		
56km ≈ 36 miles		
80km ≈ 50 miles		
320km ≈ 220 miles		
15km ≈ 7.5 miles		
480km ≈ 250 miles		
Total		



Clue 4: The player has won _____ matches.

Clue 5: Conversion Problems

Solve the problems which focus on converting between units of measurements.

The number that occurs the most in the answers will reveal the shoe size of the player.

1) Hari's bucket has 5000ml of water.

Bartek's water bottle has $\frac{1}{4}$l of water.

Abi's bottle has 3 times as much water as Bartek's.

How many litres of water do the children have altogether?

_____l

2) 0.35kg is the total mass of a box of pencils. The box itself has a mass of 200g and each pencil has a mass of 15g. How many pencils are in the box?

_____ pencils

3) Priya's piece of ribbon measures 3800cm.

She cuts it into 4 equal pieces.

How long is each piece in metres?

_____m

4) Amrit walks 1100m to school every day. What distance does she walk to school over 10 days?

Give your answer in kilometres.

_____km

5) An apple has a mass of 250g.

What is the total mass of 40 apples?

Give your answer in kilograms.

_____kg

6) A cake recipe serves 10 people.

1250g of flour
0.5kg of butter
$\frac{3}{4}$kg of sugar
500g of eggs

Joseph has edited the recipe so that it will serve 30 people. What is the total mass of ingredients he will use?

Give your answer in kilograms.

_____kg

Clue 5: The player's shoe size is _____.

The player who found the missing umpire is _____.