

Paper 3: Reasoning

Summer Cup

**40**

minutes

35

marks

First name	
Last name	
School	

Instructions

- You have 40 minutes to do this paper.
- Write your answers in the spaces. For tick questions, tick one box only.
- Show your working on the questions that have a working box. You can get a mark for your method even if your answer is wrong.
- You may not use a calculator.
- If you get stuck, move on and come back to it.

Practice paper written by SATs Arcade. Not an official STA paper.

Paper 3: Reasoning: questions

- 1 This is the distance display in the Kingsley Colts minibus. It shows how many kilometres the minibus has driven.

DISTANCE DRIVEN

4

9

6

4

0

km

The minibus is due a service when it has driven 1,000 kilometres more than this.

At how many kilometres is the service due?

 km

1 mark

- 2 The **96** players in the Summer Cup finals stand together for one big photograph.

The photographer puts 12 players in each row.

How many rows are there?

 rows

1 mark

- 3 A minibus collects players and takes them to the tournament ground. This is its timetable.

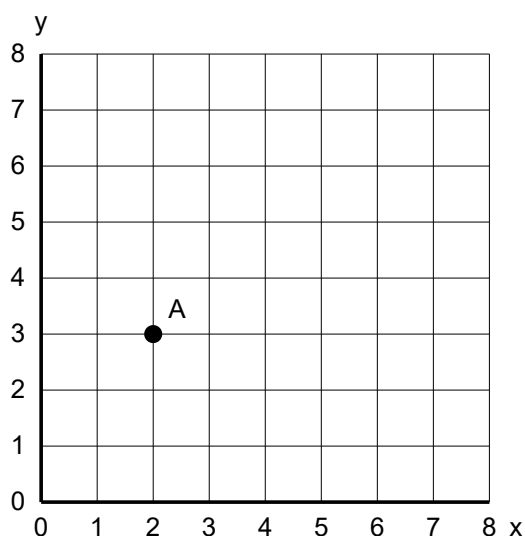
Stop	Time
Kingsley Park	07:50
Ashdown Green	08:25
Fenwick Common	09:10
Tournament ground	09:48

How long does the journey take from Kingsley Park to the tournament ground?

hour minutes

1 mark

- 4 This map grid shows the pitches at the tournament ground. Pitch A is marked.



Pitch B is 5 squares to the right of Pitch A and 2 squares up.
Write the coordinates of Pitch B.

(,)

1 mark

- 5 Four players ran 40 metres. The player with the **shortest** time came 1st.

Draw a line from each player to the place they came.

Priya: 7.19 seconds



1st

Ife: 7.9 seconds



2nd

Callum: 7.09
seconds



3rd

Josh: 7.1 seconds



4th

1 mark

6 After the group matches, each team's goal difference is shown in this table.

Team	Goal difference
Kingsley Colts	+4
Westbrook United Juniors	-2
Ashdown Stars	+1
Fenwick Falcons	-3

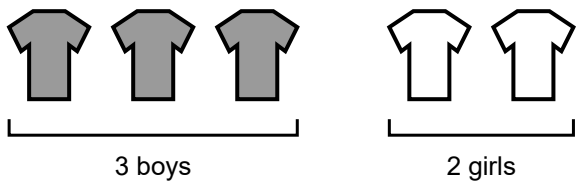
Which team has the **lowest** goal difference?

Tick **one**.

- Ashdown Stars ☐
- Fenwick Falcons ☐
- Kingsley Colts ☐
- Westbrook United Juniors ☐

1 mark

7 In the Kingsley Colts squad, the ratio of boys to girls is **3 : 2**.
This picture shows the ratio. For every 3 boys there are 2 girls.



There are 12 boys in the squad.

How many girls are in the squad?

 girls

1 mark

8 A video of the final penalty shoot-out has been watched **372,508** times.

What is the value of the digit 7 in 372,508?

1 mark

9 In the group stage, a win scores 3 points, a draw scores 1 point and a loss scores 0 points.

Each team played 3 matches. The points for Fenwick Falcons are missing from the table.

Team	Won	Drawn	Lost	Points
Kingsley Colts	2	1	0	7
Ashdown Stars	2	0	1	6
Westbrook United Juniors	0	1	2	1
Fenwick Falcons	1	0	2	?

How many more points do Kingsley Colts have than Fenwick Falcons?

Show your method

points

2 marks

10 There are 30 matches in the Summer Cup.

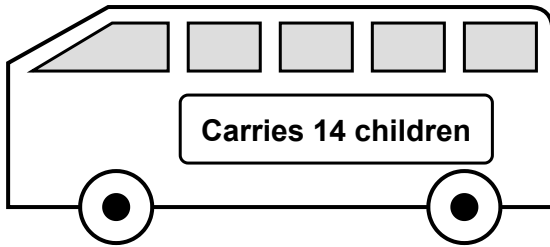
$\frac{3}{5}$ of the matches are played on Saturday.

How many matches are played on Saturday?

_____ matches

1 mark

- 11** Westbrook United Juniors are taking **150** children to the tournament in minibuses like this one.

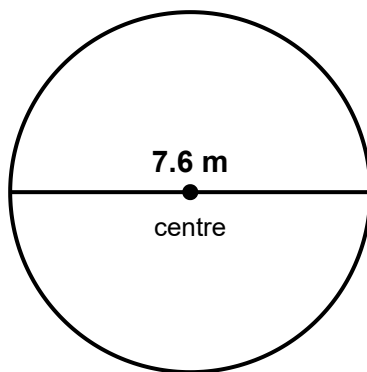


What is the smallest number of minibuses they need?

minibuses

1 mark

- 12** This is the centre circle on Pitch 2. The line goes across the circle through its centre.



Not to scale

The centre circle has a diameter of **7.6 metres**.

What is the radius of the centre circle?

Tick **one**.

- 7.6 m ☐
- 15.2 m ☐
- 3.7 m ☐
- 3.8 m ☐

1 mark

- 15** Ashdown Stars had 8 shots in the final. Each ball is one shot. The **shaded** balls are the shots they scored from.

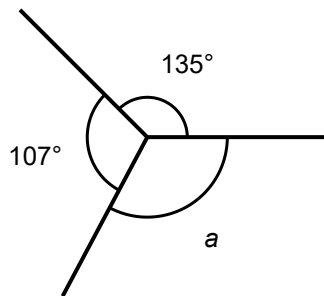


What proportion of their shots did they score from?

Write your answer as a **decimal**.

1 mark

- 16** Three white lines are painted on a training pitch. They meet at a point.



Not to scale

Calculate the size of angle *a*.

 °

1 mark

- 17** The Summer Cup website was visited **69,562** times.
Leo says, “69,562 rounded to the nearest thousand is 69,000.”
Explain why Leo is **not** correct.

1 mark

- 18** Fenwick Falcons had 18 shots in their last match. 12 of the shots were on target.

Which fraction shows the shots on target in its **simplest form**?

Tick **one**.

$$\frac{2}{3} \quad \square$$

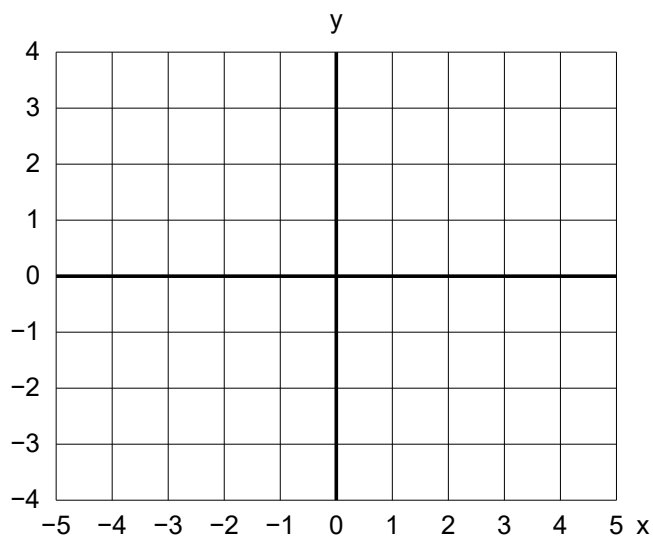
$$\frac{6}{9} \quad \square$$

$$\frac{4}{6} \quad \square$$

$$\frac{1}{3} \quad \square$$

1 mark

- 19** A rectangular pitch has three of its corners at $(-4, 1)$, $(3, 1)$ and $(3, -2)$.

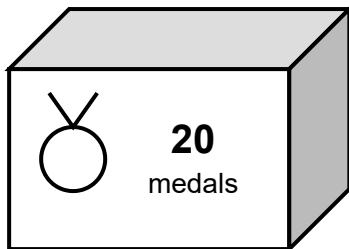


Mark the fourth corner of the pitch on the grid with a cross (×).

1 mark

- 20** There are 36 teams in the Summer Cup. Each team has 13 players.

Every player gets a medal. Medals come in boxes like this one.



How many boxes of medals are needed?

Show your method

_____ boxes

2 marks

- 21** In the penalty shoot-outs, the Ashdown Stars goalkeeper faced 40 penalties.

She saved 35% of them.

How many penalties did she save?

penalties

1 mark

- 22** A coach sets out cones using this rule.

number of cones = (3 × number of players) + 4

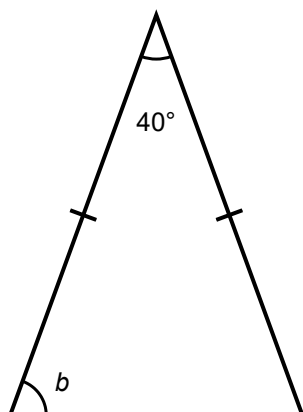
The coach sets out 40 cones.

How many players are there?

players

1 mark

- 23** Three cones mark the corners of a triangle on the training pitch. The triangle is isosceles. The two short lines on the sides show that they are equal in length.



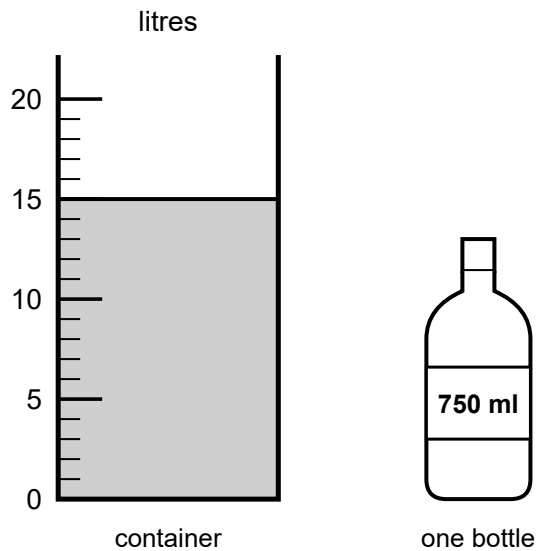
Not to scale

Calculate the size of angle b .

1 mark

24 At the tournament, Mia fills water bottles from a container.

The scale on the container shows how much water is in it at the start.



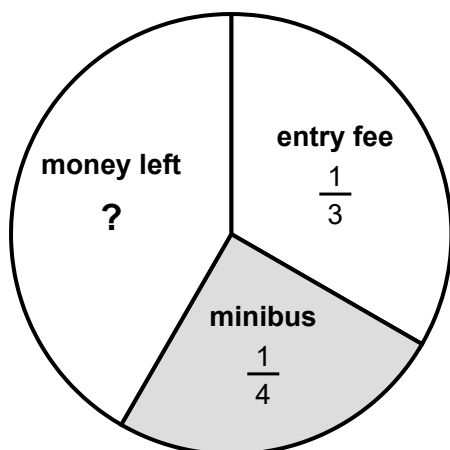
Mia fills 18 bottles. She puts 750 millilitres of water in each bottle.

How many millilitres of water are left in the container?

Show your method
ml

2 marks

- 25** This pie chart shows how Fenwick Falcons spend their tournament money.



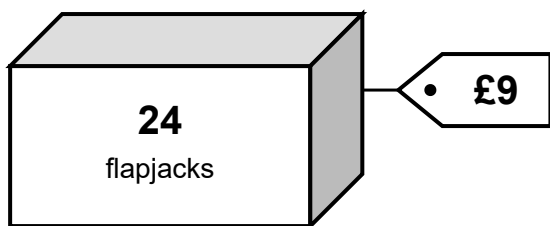
They spend $\frac{1}{3}$ of their money on the entry fee and $\frac{1}{4}$ of their money on the minibus.

What fraction of their money is left?

Show your method

2 marks

- 26** The tuck stall at the Summer Cup has 1,512 flapjacks. It packs them all into boxes like this one. Each box is sold for the price on the tag.



How much money does the stall get if it sells every box?

Show your method

£

2 marks

- 27** 36 teams enter the Summer Cup. Each team pays £46 to enter. The organisers pay £384 to hire the pitches and £192 for the medals. The money left over is shared equally between 18 youth clubs. How much money does each youth club get?

Show your method

£

3 marks

END OF TEST