

Paper 2: Reasoning

League Season

**40**

minutes

35

marks

First name	
Last name	
School	

Instructions

- You have 40 minutes.
- Read each question carefully.
- Write your answer on the line or in the box.
- For 2-mark questions, show your working.
- If you get stuck, move on and come back.
- Do not use a calculator.

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

Paper 2: Reasoning: questions

- 1** Riverside Rovers' first home match of the season was watched by 348 people.

At their second home match, 100 more people watched.

At their third home match, 10 fewer people watched than at the second.

How many people watched the third home match?

1 mark

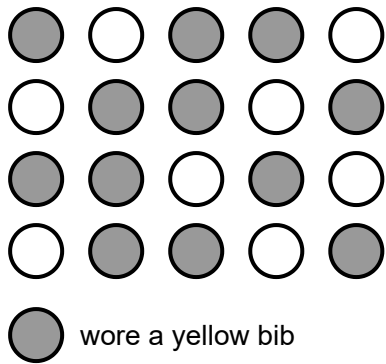
- 2** Oakfield Juniors wrote their raffle ticket sales as a sum on the clubhouse whiteboard. Rain has smudged two of the digits.

Write the missing digits to make the sum correct.

$$2 \square 5 + 17 \square = 413$$

1 mark

- 3 In a training game, 20 players took part. The grid has one circle for each player.



What fraction of the players wore yellow bibs?

Tick **one**.

$\frac{2}{5}$ ☐

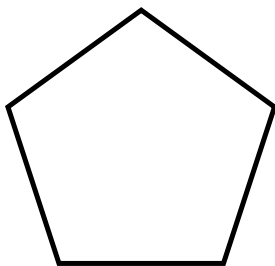
$\frac{3}{5}$ ☐

$\frac{3}{4}$ ☐

$\frac{4}{5}$ ☐

1 mark

- 4 The Hawthorn Athletic club badge is a regular pentagon.



How many lines of symmetry does a regular pentagon have?

Tick **one**.

1 ☐

2 ☐

4 ☐

5 ☐

1 mark

- 5 The clocks show when Riverside Rovers' training starts and finishes.

Training starts

17:45

Training finishes

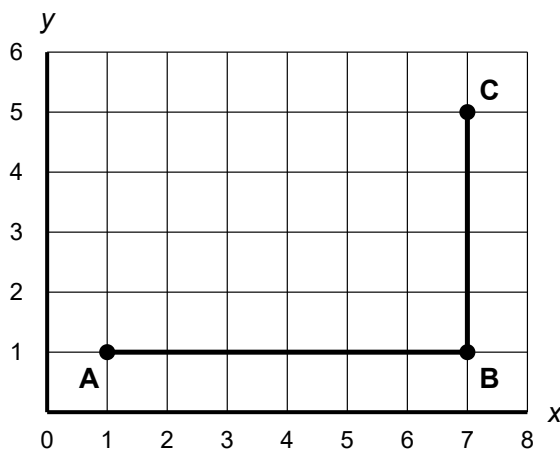
19:10

How many minutes does training last?

minutes

1 mark

- 6 Three corners of a small-sided pitch are marked on the grid at A (1, 1), B (7, 1) and C (7, 5).



The pitch is a rectangle. Its sides are parallel to the axes.

Write the coordinates of the fourth corner, D.

(,)

1 mark

- 7 Over the whole season, 4,618 people watched Millbrook Youth's home matches.

What is 4,618 rounded to the nearest 100?

Tick **one**.

4,000 ☐

4,600 ☐

4,700 ☐

5,000 ☐

1 mark

- 8 The raffle at Hawthorn Athletic sold these numbers of tickets in four months.

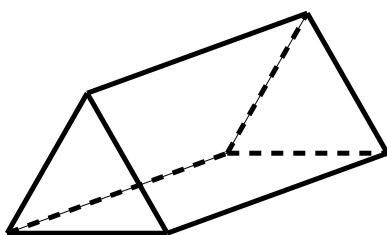
September	October	November	December
1,082	1,208	1,028	1,280

Write the four numbers in order, starting with the smallest.

, , ,

1 mark

- 9 The club tuck shop sells flapjacks in a box shaped like a triangular prism.

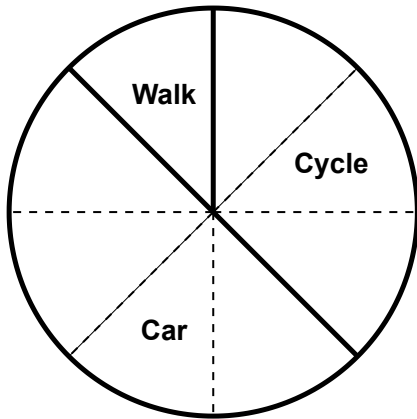


How many faces does the box have?

1 mark

- 10** The pie chart shows how the 40 players at Oakfield Juniors travel to training.

The pie chart is split into 8 equal parts.



How many of the 40 players cycle to training?

1 mark

- 11** Millbrook Youth pay £15 each time they hire the pitch. They hire it 14 times.

Oakfield Juniors pay £12 each time they hire the pitch. They hire it 16 times.

How much more do Millbrook Youth pay than Oakfield Juniors?

1 mark

- 12** The Millbrook Youth goalkeeper wrote the part of the shots she saved in three matches as decimals.

Draw lines to match each decimal to the fraction with the same value. One fraction will not be used.

		●	$\frac{4}{10}$
0.35	●		$\frac{7}{20}$
0.6	●		$\frac{1}{25}$
0.04	●		$\frac{3}{5}$

1 mark

- 13** Goal difference is the goals a team has scored minus the goals it has let in.

Here is part of the league table after 8 matches each.

Team	Played	Goals for	Goals against	Goal difference
Riverside Rovers	8	20	8	+12
Hawthorn Athletic	8	14	10	+4
Millbrook Youth	8	11	11	0
Oakfield Juniors	8	9	12	-3

Oakfield Juniors win their next match 5-1.

What is their goal difference now?

1 mark

- 14** Hawthorn Athletic order team photos. The cost in pounds is worked out using this rule.

$$\text{cost} = 4 \times \text{number of players} + 5$$

What is the cost of a team photo for 14 players?

£

1 mark

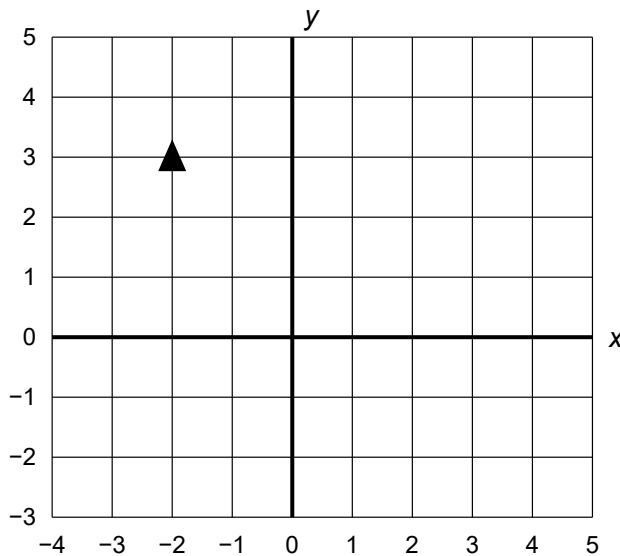
- 15** In the Riverside Rovers training group, the ratio of girls to boys is 3 : 2.

There are 15 girls.

How many boys are in the group?

1 mark

- 16** A coach puts a cone at $(-2, 3)$. The cone is shown on the grid.



He moves the cone 5 squares to the right and 4 squares down.

Mark the new position of the cone on the grid with a cross (×).

1 mark

- 17** Hawthorn Athletic spent $\frac{2}{5}$ of their money on kit and $\frac{1}{4}$ of their money on pitch hire.

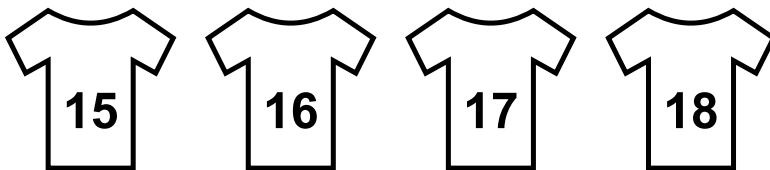
Sam works out the fraction they spent altogether. He says,

$$\frac{2}{5} + \frac{1}{4} = \frac{3}{9}$$

Explain why Sam is **not** correct.

1 mark

- 18** Here are four shirt numbers from Millbrook Youth.



Use each number once to complete the sentences.

is a square number.

is a prime number.

is a multiple of 9.

is a factor of 30.

2 marks

19 A Riverside Rovers player buys a new kit.

Item	Price
Shirt	£14.30
Shorts	£6.45
Socks	£3.20

She pays with a £20 note and a £10 note.
How much change does she get?

Show your method

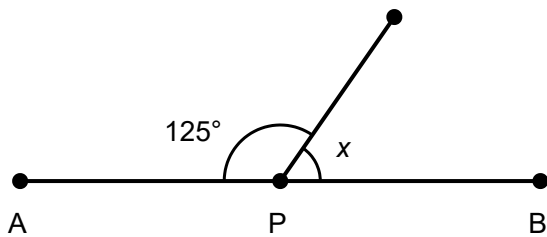
2 marks

20 A Millbrook Youth training top costs £40.
In the club sale, the price is reduced by 15%.
What is the sale price?

£

1 mark

- 21** A coach lays out cones A, P and B in a straight line. A string runs from cone P to another cone.



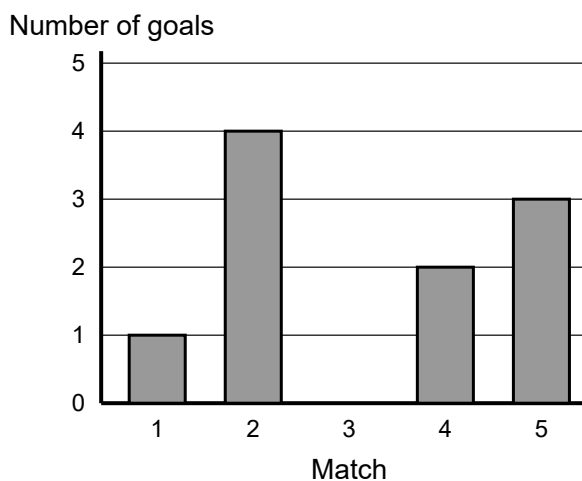
Not to scale

Work out the size of angle x .

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1 mark

- 22** The bar chart shows how many goals Riverside Rovers scored in each of their first five matches.



After the sixth match, the mean number of goals per match was 2.5.

How many goals did they score in the sixth match?

Show your method

2 marks

24 Hawthorn Athletic won $\frac{3}{4}$ of their 20 league matches.

Millbrook Youth won 0.65 of their 20 league matches.

How many more matches did Hawthorn Athletic win than Millbrook Youth?

Show your method

2 marks

25 In the league, a win is worth 3 points, a draw is worth 1 point and a loss is worth 0 points.

Hawthorn Athletic have played 6 matches and have 10 points.

There are **two** possible ways they could have done this.

Complete the table to show both ways.

	Won	Drawn	Lost
Way 1			
Way 2			

Show your method

2 marks

26 Millbrook Youth buy 950 bottles of water for the season.

The bottles are packed in cases. Each case holds 24 bottles.

All the bottles must be packed in cases. A case does not have to be full.

How many cases do they need?

Show your method

2 marks

27 Riverside Rovers raise £840 in a raffle.

They share the money between kit, new balls and pitch hire in the ratio 4 : 2 : 1.

How much do they spend on kit?

Show your method

£

2 marks

END OF TEST