FOUNDATION & HIGHER

SAME AT BOTH TIERS

Name ..... Class .....

S2: Charts and diagrams

Solve problems by interpreting charts and diagrams

20 marks · 25 minutes · Non-calculator

1) A pie chart shows the favourite sports of 72 students. The angles are 150° (football), 110°, 60° and 40°. How many chose football, and how many more chose the most popular sport than the least popular?

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[Question 1: 3 marks]

2) School A (300 students) has a 90° sector for "walk". School B (500 students) has a 72° sector for "walk". Which school has more students who walk?

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[Question 2: 3 marks]

3) A bar chart shows 50 people's choices. Three bars are 12, 15 and 9. Find the fourth bar and the angle it would have on a pie chart.

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[Question 3: 3 marks]

4) In a pictogram, one symbol represents 8 cars. Monday shows $3\frac{1}{2}$ symbols. Tuesday had 25% more cars than Monday. How many symbols should Tuesday show?

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[Question 4: 3 marks]

5) Sales over four months were 120, 135, 150 and 165. If the trend continues, predict month 5 sales and find the percentage increase from month 1 to month 5.

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[Question 5: 3 marks]

6) Show that pie chart angles for 18, 27 and 15 out of 60 add up to 360°.

[Question 6: 2 marks]

7) Class A has 12 boys and 15 girls. Class B has 18 boys and 9 girls. Which class has the higher proportion of girls? Show your working.

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[Question 7: 3 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	30; 22	$\frac{150}{360} \times 72$ (P1); 30 (A1); least popular $\frac{40}{360} \times 72 = 8$, so $30 - 8 = 22$ (A1).
2	B	A: 75 (P1); B: 100 (P1); A1.
3	14; 100.8°	$50 - 36$ (P1); $\frac{14}{50} \times 360$ (P1); A1.
4	$4\frac{3}{8}$	Monday 28 (P1); Tuesday 35 (P1); $35 \div 8$ (A1).
5	180; 50%	Increase of 15 each month (P1); 180 (A1); $\frac{60}{120}$ (A1).
6	Shown	108, 162, 90 (P1); sum (C1).
7	A	$\frac{15}{27}$ and $\frac{9}{27}$ (P1, P1); A1.