Data Handling & Probability: Hard Practice Paper 5 Answers

Q#	Answer	Explanation
1	A	The five bars total 45 + 30 + 60 + 25 + 40 = 200 eggs. Over five weeks the mean is 200 ÷ 5 = 40.
2	D	Week 3 gave 60 eggs out of the 200 collected altogether. As a decimal that is 60 ÷ 200 = 0.3, which is 30%.
3	B	Week 5 gave 40 eggs. One per cent of 40 is 40 ÷ 100 = 0.4, so 15% is 0.4 × 15 = 6 eggs. Week 6 was that much more: 40 + 6 = 46.
4	E	The whole 360° stands for 900 votes, so each degree is worth 900 ÷ 360 = 2.5 votes. Candidate A's 140° is therefore 140 × 2.5 = 350 votes.
5	C	Each degree of the pie chart stands for 2.5 votes, so 100 votes take up 100 ÷ 2.5 = 40°.
6	B	Four numbers with a mean of 8 add up to 4 × 8 = 32. The three known numbers give 4 + 7 + 10 = 21, so x is 32 − 21 = 11.
7	A	The six numbers add up to 6 × 10 = 60 and the five given add up to 7 + 9 + 11 + 12 + 13 = 52, so the missing number is 60 − 52 = 8. That is not a new largest or smallest, so the range stays 13 − 7 = 6.
8	D	Three of the four sections are blue, so each spin is blue with probability 3/4. The two spins do not affect each other, so multiply: 3/4 × 3/4 = 9/16.
9	C	The senior column must add up to its total of 75, and 36 of those seniors are male, so the missing number is 75 − 36 = 39.
10	E	Only the senior column matters, and it holds 75 members. 36 of them are male, so the probability is 36 ÷ 75 = 12/25.
11	E	Adding the two lists gives 17 + 14 = 31, but the 6 who like both have been counted twice. Taking one of those counts away gives 31 − 6 = 25 pupils.

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12	B	The steepest section is the fastest growth. From week 2 to week 3 the plant goes from 9 cm to 18 cm, a gain of 18 − 9 = 9 cm, which beats every other week.
13	A	The groups of 20 or more are 20-29 and 30-39, so add those two rows: 9 + 5 = 14 people.
14	C	Altogether there are 4 + 12 + 9 + 5 = 30 people and 5 of them are in the 30-39 group. That is 5 ÷ 30 = 1/6.
15	D	The experiment estimates the probability of red as 14 ÷ 40 = 0.35. Applying that to the whole bag gives 0.35 × 60 = 21 red counters.

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