Data Handling & Probability: Medium Practice Paper 8 Answers

Q#	Answer	Explanation
1	D	Find the Year 5 row and read across to the Cat column. The two meet at 15, so 15 Year 5 pupils own a cat.
2	D	The Total row shows that 25 pupils own a dog out of 50 pupils altogether. That is 25 out of 50, which cancels down to 1/2.
3	C	Exactly one activity means the parts of the circles that do not overlap. That is 8 who only swim and 10 who only cycle, giving 8 + 10 = 18 pupils. The 6 in the middle do both, so they are not counted.
4	C	Everyone inside the cycling circle counts, which is the 10 who only cycle plus the 6 who do both, so 10 + 6 = 16 pupils cycle. Altogether there are 8 + 6 + 10 + 6 = 30 pupils, so the fraction is 16 out of 30, which cancels to 8/15.
5	C	A full circle is 360°, so an angle of 120° is 120 ÷ 360 of the whole, which is one third. A third of the people is 180 ÷ 3 = 60.
6	B	A pie chart shows the share, not the number, so equal sectors do not mean equal numbers. School A has 200 ÷ 4 = 50 pupils choosing blue and School B has 400 ÷ 4 = 100, so School B has twice as many.
7	C	With 30 pupils the median sits between the 15th and 16th marks in order. Counting up the groups gives 3, then 3 + 7 = 10, then 10 + 10 = 20. So the 11th to the 20th pupils are all in the 20-29 group, and that includes the 15th and 16th.
8	C	Look for the steepest downward part of the line. From February to March the sales drop 55 − 50 = 5, but from March to April they drop 50 − 35 = 15, which is the biggest fall. The line rises in the other months.
9	B	Work out the total number of pets first. The pupils own 8 × 1 = 8, then 6 × 2 = 12, then 2 × 3 = 6, and those with none add nothing, so the total is 8 + 12 + 6 = 26 pets. Sharing between the pupils gives 26 ÷ 20 = 1.3.

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10	B	The mode is the number of pets owned by the most pupils. The largest figure in the bottom row is 8, and that sits under 1 pet, so the mode is 1. The answer is the number of pets, not the 8 pupils.
11	C	The mean is the total shared between the pupils, so the total is the mean multiplied by how many pupils there are: 25 × 2 = 50 books.
12	A	The group he picked is not typical of the school. Basketball teams tend to have taller players, and leaving out every other year group removes the younger, shorter pupils, so his mean would come out far too high.
13	C	The four bars come to 20 + 40 + 30 + 60 = 150 pounds altogether, and Year 6 raised 60 of that. As a fraction that is 60 out of 150, and 60 ÷ 150 = 0.4, which is 40%.
14	E	The shop wants the size that most customers actually ask for, and that is what the mode gives. A mean shoe size could come out as something like 5.4, which is not a size anyone can buy.
15	A	Year 3 and Year 5 together raised 20 + 30 = 50 pounds, and Year 6 raised 60, which is more. Checking the others: Year 4 raised 40 against Year 5's 30, so it is not double; Year 3 raised only 20; the total is 150 rather than 200; and Year 3 raised the least, not Year 5.

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