Data Handling & Probability: Medium Practice Paper 7 Answers

Q#	Answer	Explanation
1	C	Three of the six sections are red, so the other 6 − 3 = 3 are not. The probability of not landing on red is 3 out of 6, which cancels down to 1/2.
2	D	Three of the six numbers, 2, 4 and 6, are even, so that probability is exactly 3/6, or one half. Rolling a 6 is 1/6, less than 3 is 2/6, rolling a 7 is impossible and rolling more than 0 is certain.
3	C	Change them all into the same form to compare. As decimals they are 0.35, about 0.33, 0.45, 0.4 and 0.3. The largest is 0.45, so 45% is the most likely.
4	B	Either it rains or it does not, and those two chances must add up to 1. So the probability of no rain is 1 − 0.65 = 0.35.
5	C	The coin can land 2 ways and the spinner can land 4 ways, and each coin result can pair with each spinner result. That gives 2 × 4 = 8 outcomes, from heads with 1 through to tails with 4.
6	B	The four equally likely outcomes are head then head, head then tail, tail then head, and tail then tail. Only one of those four is two tails, so the probability is 1/4.
7	B	After the first red is kept there are only 3 reds left and 9 counters in the bag, since 10 − 1 = 9. So the probability is 3 out of 9, which cancels down to 1/3.
8	C	Only 5 and 6 are greater than 4, so the probability each roll is 2 out of 6, which is 1/3. A third of the rolls is 120 ÷ 3 = 40 times.
9	E	Anya wins on 3 of the 5 sections and Ben wins on the other 2. Since 3/5 is bigger than 2/5 the chances are not equal, so the game is not fair and it favours Anya.
10	A	There are 45 pupils in the table and 20 of them are in Year 5, so the probability is 20 out of 45. Dividing both numbers by 5 gives 4/9.

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11	C	The pupil is known to be in Year 6, so only that row matters and there are 25 pupils to choose from, not 45. Of those, 9 chose art, so the probability is 9/25.
12	C	The three probabilities must add up to 1, because the counter has to be one of the three colours. Red and blue together give 1/4 + 1/2 = 3/4, so green must be 1 − 3/4 = 1/4.
13	A	Add every number in the diagram to find the total: 9 + 4 + 7 + 5 = 25 pupils. The 5 outside both circles have neither animal, so the probability is 5 out of 25, which cancels to 1/5.
14	C	From the experiment the pin lands point up 60 times out of 200, which is 60 ÷ 200 = 0.3 of the drops. Applying that to 500 drops gives 500 × 0.3 = 150 times.
15	B	A probability of 1/3 means one counter in every three is red. Sharing the 12 counters into three equal groups gives 12 ÷ 3 = 4, so there are 4 red counters.

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