Fractions, Decimals & Percentages: Medium Practice Paper 10 Answers

Q#	Answer	Explanation
1	D	After Monday, 1 − 1/4 = 3/4 of the book is left. On Tuesday he reads one third of that, and one third of three quarters is one quarter of the book. That leaves 3/4 − 1/4 = 1/2 of the book. The answer 5/12 wrongly takes 1/3 of the whole book instead of 1/3 of what was left.
2	E	One third of £60 is £20, so shop A charges 60 − 20 = 40 pounds. 10% of £60 is £6, so 30% is £18, and shop B charges 60 − 18 = 42 pounds. Shop A is cheaper by 42 − 40 = 2 pounds. One third is a little more than 30%, so it takes more off.
3	A	Each cake needs 3 quarters of a cup, so 6 cakes need 6 × 3 = 18 quarters. Four quarters make a whole cup: 18 ÷ 4 = 4 remainder 2. That is 4 whole cups and 2 quarters, and 2 quarters are a half, so the answer is 4 1/2 cups.
4	E	Write all three fractions in eighths. 1/2 is 4/8 and 1/4 is 2/8. Then 4/8 + 2/8 + 1/8 = 7/8. The total is one eighth short of a whole.
5	C	The top number has been multiplied by 4, because 2 × 4 = 8. The bottom number must be multiplied by 4 as well: 3 × 4 = 12. So 2/3 is equal to 8/12. Adding 6 to both numbers gives 9, which is wrong.
6	D	Change the fraction so that its bottom number is 100. Multiplying the top and the bottom by 5 gives 3/20 = 15/100, and 15 hundredths is 0.15.
7	E	An hour is 60 minutes. One fifth of an hour is 60 ÷ 5 = 12 minutes, so two fifths is 2 × 12 = 24 minutes.
8	C	A fraction is always a fraction of something. Both children eat one half, but Sam's half is taken from a bigger pizza, so it is more food. Two fractions can only be compared directly when they are fractions of the same whole.

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9	D	Each number is 0.25 more than the one before, and the 1st number is 0.25, so the 7th number is seven lots of 0.25: 0.25 × 7 = 1.75. Carrying on the list gives 1.25, 1.5, 1.75 for the 5th, 6th and 7th numbers.
10	E	Suppose the coat cost £100. Half off makes it £50. Half off again takes away £25, not £50, because the second reduction is half of the new price. The coat now costs £25, so the total reduction is 100 − 25 = 75, which is 75% of the original price. It is not 100%, or the coat would be free.
11	B	25% is one quarter, and a quarter of £40 is £10. One fifth of £40 is £8. He spends 10 + 8 = 18 pounds, so he has 40 − 18 = 22 pounds left.
12	A	Each of the 4 triangles is 1/4 of the square. Half of one triangle is 1/8 of the square. The shaded part is 1/4 + 1/8 = 3/8, because 1/4 is the same as 2/8.
13	C	10% of 30 is 3, so 40% is 4 × 3 = 12 boys. The number of girls is 30 − 12 = 18. There are 18 − 12 = 6 more girls than boys.
14	D	In the first week it grows 10% of 30 cm, which is 3 cm, so it reaches 30 + 3 = 33 cm. In the second week it grows 10% of 33 cm, which is 3.3 cm, so it reaches 33 + 3.3 = 36.3 cm. The answer 36 cm wrongly uses 10% of the first height both times.
15	C	100% of 60 is the whole of it, 60. Another 50% is half of 60, which is 30. So 150% of 60 is 60 + 30 = 90. A percentage bigger than 100% gives more than the amount you started with.

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