Rounding & Estimating: Medium Practice Paper 10 Answers

Q#	Answer	Explanation
1	D	3.275 kg is 3,275 g. To round to the nearest 100 g, look at the tens digit, which is 7. It is 5 or more, so 3,275 g rounds up to 3,300 g, which is 3.3 kg. Rounding to the nearest 100 g is the same as rounding kilograms to one decimal place.
2	B	In 4.567 the hundredths digit is 6, so it rounds up to 4.6. In 3.218 the hundredths digit is 1, so it rounds down to 3.2. Adding the rounded numbers gives 4.6 + 3.2 = 7.8.
3	E	891 is close to 900, because its tens digit 9 rounds it up to the next hundred. One third of 900 is 900 ÷ 3 = 300, so one third of 891 is about 300.
4	E	Round the numbers to make each division easy. 498 ÷ 21 is about 500 ÷ 20 = 25, which is between 20 and 30. The others are about 700 ÷ 20 = 35, 400 ÷ 10 = 40, 600 ÷ 40 = 15 and 90 ÷ 6 = 15.
5	E	Her estimate is 20 × 50 = 1,000 pence, which is £10. The exact cost is 19 × 48 = 912 pence. The estimate is too big by 1,000 − 912 = 88 pence. It is too big because both numbers were rounded up.
6	A	A number that rounds to 50 to the nearest 10 could be as small as 45, because a ones digit of 5 rounds up. If every box held only 45 nails, the total would be 30 × 45 = 1,350.
7	D	The multiples of 25 on either side of 163 are 150 and 175. The gaps are 163 − 150 = 13 and 175 − 163 = 12. The smaller gap is 12, so 163 is nearer to 175.
8	C	Round 38 up to 40, because its ones digit is 8, and round 1,216 to 1,200. Then 1,200 ÷ 40 = 30, so the number is about 30. The exact number is 32.
9	E	Within 10 g of 500 g means anything from 500 − 10 = 490 g up to 500 + 10 = 510 g. The bag of 511 g is 11 g over, so it fails. The bag of 490 g is exactly on the lower limit, so it passes.

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10	E	Mia: both numbers have a tenths digit of 6, so they round up to 15 and 16, and 15 + 16 = 31. Sam: 14.6 + 15.6 = 30.2, and the tenths digit 2 rounds it down to 30. The difference is 31 − 30 = 1. Rounding before adding can give a different answer from rounding after.
11	B	A number rounded to the nearest 100 is always a multiple of 100, so it ends in two zeros. Only 4,600 ends in two zeros.
12	B	3 5/8 lies between 3 and 4. The fraction part decides which is nearer. Half of 8 is 4, so 4/8 would be exactly halfway. 5/8 is more than a half, so the number rounds up to 4.
13	C	−3.6 lies between −4 and −3. The tenths digit is 6, which is 5 or more, so the number goes to the whole number further from zero, which is −4. It is 0.4 away from −4 but 0.6 away from −3.
14	C	1 kg is 1,000 g. Rounding 28 g to 30 g gives 1,000 ÷ 30, which is about 33, and since the biscuits are a little lighter than 30 g there will be slightly more. Check: 35 × 28 = 980, which is very nearly 1,000.
15	E	'Nearly 20,000' means a little less than 20,000. 19,870 is just 130 short, and it rounds up to 20,000 because its hundreds digit is 8. 20,340 and 21,000 are more than 20,000, and 15,200 is much too far below.

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