Rounding & Estimating: Hard Practice Paper 8 Answers

Q#	Answer	Explanation
1	E	The track could be up to half a metre longer than stated, so at most 240.5 m. Five laps of that come to 240.5 × 5 = 1202.5 metres.
2	D	Round the daily takings to £5,000, which multiplies easily. Since 5,000 × 6 = 30000, the week's takings are roughly £30,000.
3	B	Anything within half a unit of 8 rounds to 8, and a number exactly on 7.5 rounds up while one on 8.5 rounds up to 9 instead. So the number runs from 7.5 up to just below 8.5.
4	A	Round to easy numbers: about 2,000 pages in about 40 minutes. Since 2,000 ÷ 40 = 50, the printer manages roughly 50 pages a minute.
5	B	Rounding to the nearest pound, the prices are about 31, 24, 19 and 13. The pairs come to about 50, 55, 43, 37 and 32, so the coat with the shirt is nearest to £50.
6	D	Round each number: about 6 times about 8, divided by about 0.5. Since 6 × 8 = 48, and dividing by a half doubles the answer, the result is about 48 × 2 = 96.
7	C	The first three significant figures are the 6, the 7 and the 3, so the rounding is decided by the next digit, which is 2. As 2 is less than 5 the number rounds down to 67,300,000.
8	C	Rounding to 40 members at £50 each gives 40 × 50 = 2000, but both numbers were rounded up, so the true total must be less. Working it out, 38 × 47 = 1786 pounds, which falls short.
9	D	Reading the bars gives roughly 4,900 and 6,100 sales. The difference is about 6,100 − 4,900 = 1200, and the exact figures give 1,270, so about 1,300.
10	A	Rounding to 3,950 to the nearest fifty means the number runs from 3,925 to 3,974, which is 50 whole numbers. Every one of them also rounds to 4,000 to the nearest thousand, so all 50 work.

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11	C	Round each number to the nearest ten: about 30 squared take away about 20 squared. Since 30 × 30 = 900 and 20 × 20 = 400, the answer is roughly 900 − 400 = 500.
12	E	The schools sector takes up about a quarter of the chart. A quarter of 8 million is 8 ÷ 4 = 2 million pounds.
13	B	Rounding gives an estimate of 6 × 5 = 30, so the answer should be near 30. The digits 3038 are right but the answer is ten times too small, which means the decimal point is in the wrong place.
14	E	Each parcel could be up to 0.05 kg heavier than stated, so at most 1.25 kg, 2.55 kg and 0.85 kg. Adding those gives 1.25 + 2.55 + 0.85 = 4.65 kilograms.
15	A	Rounding to the nearest 500 means the number is within 250 of 7,000, so it runs from 6,750 upwards, while rounding to the nearest thousand allows anything from 6,500. The tighter condition wins, so the smallest is 6,750.

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