Algebra & Sequences: Hard Practice Paper 2 Answers

Q#	Answer	Explanation
1	A	The sequence goes up in 7s, so start with 7n, giving 7, 14, 21, 28. Each term is 4 less, so the rule is 7n − 4.
2	C	Take 4x from both sides: 3x − 4 = 14. Add 4: 3x = 18, so x = 6.
3	C	n^2 means 6 × 6 = 36, and then 36 − 1 = 35.
4	A	Expand the bracket: 4 × 3b = 12b and 4 × (−2) = −8, giving 12b − 8 + 7. Then −8 + 7 = −1, so the answer is 12b − 1.
5	C	Three apples cost 3 × 30 = 90p, so two bananas cost 160 − 90 = 70p, and one banana costs 70 ÷ 2 = 35p.
6	C	Each term is half the one before, so the next term is 12 ÷ 2 = 6.
7	D	a^2 = (−4) × (−4) = 16, then 2 × 16 = 32, and finally 32 + 5 = 37.
8	C	Solve 5n − 3 = 62. Adding 3 gives 5n = 65, so n = 13.
9	B	Divide both sides by 3: 2x − 1 = 7. Add 1: 2x = 8, so x = 4.
10	C	The 3rd term is the 1st plus the 2nd, so 4 + the 2nd term = 11, giving 11 − 4 = 7.
11	A	A square has 4 equal sides, so the perimeter is 4(x + 4). Multiplying each part by 4 gives 4x + 16.
12	D	The terms are 3, then 3 × 3 − 2 = 7, then 7 × 7 − 2 = 47.
13	B	Add 3x to both sides: 20 = 4x + 4. Take 4 away: 16 = 4x, so x = 4.
14	A	The sequence goes down in 4s, so the rule contains −4n. Checking n = 1: 49 − 4 = 45, which is correct.

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15	E	The pencil and pen together make 4 equal parts, so one part is 120 ÷ 4 = 30p. The pen is 3 parts, which is 3 × 30 = 90p.

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