Algebra & Sequences: Hard Practice Paper 5 Answers

Q#	Answer	Explanation
1	A	The sequence goes up in 5s, so start with 5n, giving 5, 10, 15, 20. Each term is 1 more, so the rule is 5n + 1.
2	C	Take 4x from both sides: 5x − 8 = 27. Add 8: 5x = 35, so x = 7.
3	C	$n^2 = 6 \times 6 = 36$, and then 36 + 6 = 42.
4	A	Expand both brackets: 6y + 15 and 4y − 8. Subtracting gives 6y − 4y = 2y and 15 − (−8) = 23, so the answer is 2y + 23.
5	C	Each term doubles, so the sequence continues 96, 192, 384. Those are the 6th, 7th and 8th terms.
6	D	$p^2 = (-2) \times (-2) = 4$ and $3p = 3 \times (-2) = -6$, so 4 − (−6) = 4 + 6 = 10.
7	C	Solve 4n + 9 = 65. Taking 9 away gives 4n = 56, so n = 14.
8	D	Expand both sides: 3x − 12 = 2x + 2. Take 2x from both sides: x − 12 = 2, so x = 14.
9	C	The 5th term is the 3rd plus the 4th, so 12 + the 4th term = 30, giving 30 − 12 = 18.
10	C	The perimeter is x + x + 2 + 2x = 4x + 2, so 4x + 2 = 26. Then 4x = 24 and x = 6.
11	C	First solve for n: 6n = 31 + 5 = 36, so n = 6. Then n + 4 = 6 + 4 = 10.
12	D	The 8th square number is 8 × 8 = 64 and the 7th is 7 × 7 = 49, so the difference is 64 − 49 = 15.
13	C	Expand the bracket: 5x + 3 = 2x + 18. Take 2x from both sides: 3x + 3 = 18, so 3x = 15 and x = 5.
14	A	The sequence goes down in 3s, so the rule contains −3n. Checking n = 1: 5 − 3 = 2, which is correct.
15	C	The middle number is 48 ÷ 3 = 16, so the three numbers are 15, 16 and 17, and the largest is 17.

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