

Algebra & Sequences: Hard Practice Paper 2

Q1. What is the n th term rule for this sequence?

3, 10, 17, 24

- A. $7n - 4$ B. $7n + 4$ C. $n + 7$ D. $4n - 7$ E. $7n + 3$

Q2. Solve for x .

$$7x - 4 = 4x + 14$$

- A. 2 B. 5 C. 6 D. 10 E. 18

Q3. The n th term of a sequence is $n^2 - 1$. What is the 6th term?

- A. 11 B. 25 C. 35 D. 36 E. 37

Q4. Simplify this expression.

$$4(3b - 2) + 7$$

- A. $12b - 1$ B. $12b + 1$ C. $12b - 15$ D. $7b + 5$ E. $12b + 5$

Q5. Three apples and two bananas cost £1.60 altogether. An apple costs 30p. How much does one banana cost?

- A. 25p B. 30p C. 35p D. 40p E. 70p

Q6. What is the next number in this sequence?

96, 48, 24, 12, ?

- A. 0 B. 4 C. 6 D. 8 E. 10

Q7. If $a = -4$, what is the value of $2a^2 + 5$?

- A. -27 B. -11 C. 13 D. 37 E. 69

Q8. The n th term of a sequence is $5n - 3$. Which term is equal to 62?

- A. 11th term B. 12th term C. 13th term D. 14th term E. 15th term

Q9. Solve for x .

$$3(2x - 1) = 21$$

- A. 3 B. 4 C. 5 D. 7 E. 11

Q10. In a sequence each term is the sum of the two terms before it. The 1st term is 4 and the 3rd term is 11. What is the 2nd term?

- A. 5 B. 6 C. 7 D. 8 E. 15

Q11. A square has sides of length $(x + 4)$ cm. Which expression gives its perimeter in centimetres?

- A. $4x + 16$ B. $4x + 4$ C. $x + 16$ D. $2x + 8$ E. $x^2 + 16$

Q12. A sequence starts at 3 and the rule is "square the term, then subtract 2". What is the 3rd term?

- A. 7 B. 14 C. 23 D. 47 E. 49

Q13. Solve for x .

$$20 - 3x = x + 4$$

- A. 2 B. 4 C. 5 D. 6 E. 8

Q14. What is the n th term rule for this sequence?

45, 41, 37, 33

- A. $49 - 4n$ B. $45 - 4n$ C. $4n + 41$ D. $41 - 4n$ E. $4n - 49$

Q15. A pencil costs a certain amount and a pen costs 3 times as much. Together they cost £1.20. How much does the pen cost?

- A. 30p B. 40p C. 60p D. 80p E. 90p

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