

Algebra & Sequences: Hard Practice Paper 4

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

12, 19, 26, 33

- A. $7n + 5$ B. $7n - 5$ C. $5n + 7$ D. $n + 7$ E. $7n + 12$

Q2. Solve for x .

$$8x - 3 = 5x + 18$$

- A. 3 B. 5 C. 6 D. 7 E. 21

Q3. The n th term of a sequence is $n(n + 1)$. What is the 5th term?

- A. 11 B. 25 C. 26 D. 30 E. 36

Q4. Simplify this expression.

$$6x + 2(x - 5)$$

- A. $8x - 10$ B. $8x + 10$ C. $8x - 5$ D. $6x - 10$ E. $4x - 10$

Q5. What is the next number in this sequence?

2, 5, 10, 17, 26, ?

- A. 33 B. 35 C. 37 D. 39 E. 41

Q6. If $a = 5$ and $b = -3$, what is the value of $a^2 + b^2$?

- A. 4 B. 16 C. 22 D. 34 E. 64

Q7. The n th term of a sequence is $9n - 4$. Which term is equal to 77?

- A. 7th term B. 8th term C. 9th term D. 10th term E. 11th term

Q8. Solve for x.

$$2(x + 7) = 3x + 4$$

- A. 2 B. 5 C. 8 D. 10 E. 18

Q9. A sequence starts at 4 and each term is the previous term multiplied by 3 then subtract 5. What is the 4th term?

- A. 16 B. 27 C. 38 D. 43 E. 48

Q10. A rectangle has a length of $3x$ cm and a width of 4 cm. Its area is 36 cm^2 . What is the value of x?

- A. 2 B. 3 C. 4 D. 6 E. 9

Q11. In this sequence each term is the sum of the two before it. What is the 9th term?

1, 1, 2, 3, 5, 8, ...

- A. 21 B. 26 C. 34 D. 42 E. 55

Q12. If $5n + 2 = 37$, what is the value of $10n$?

- A. 7 B. 35 C. 70 D. 74 E. 350

Q13. Solve for x.

$$40 - 3x = 4x + 5$$

- A. 3 B. 5 C. 7 D. 9 E. 35

Q14. What is the nth term rule for this sequence?

30, 26, 22, 18

- A. $34 - 4n$ B. $30 - 4n$ C. $4n + 26$ D. $26 - 4n$ E. $4n - 34$

Q15. Two numbers add up to 40, and one of them is 4 more than the other. What is the larger number?

A. 18

B. 20

C. 22

D. 24

E. 36

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