

Algebra & Sequences: Hard Practice Paper 5

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

6, 11, 16, 21

- A. $5n + 1$ B. $5n - 1$ C. $n + 5$ D. $6n - 5$ E. $5n + 6$

Q2. Solve for x .

$$9x - 8 = 4x + 27$$

- A. 4 B. 5 C. 7 D. 9 E. 35

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

- A. 30 B. 36 C. 42 D. 48 E. 72

Q4. Simplify this expression.

$$3(2y + 5) - 4(y - 2)$$

- A. $2y + 23$ B. $2y + 7$ C. $10y + 23$ D. $2y - 7$ E. $6y + 23$

Q5. A sequence begins 3, 6, 12, 24, 48, ... Which term is equal to 384?

- A. 6th term B. 7th term C. 8th term D. 9th term E. 10th term

Q6. If $p = -2$, what is the value of $p^2 - 3p$?

- A. -10 B. -2 C. 2 D. 10 E. 12

Q7. The n th term of a sequence is $4n + 9$. Which term is equal to 65?

- A. 12th term B. 13th term C. 14th term D. 15th term E. 16th term

Q8. Solve for x.

$$3(x - 4) = 2(x + 1)$$

- A. 6 B. 10 C. 12 D. 14 E. 16

Q9. In a sequence each term is the sum of the two terms before it. The 3rd term is 12 and the 5th term is 30. What is the 4th term?

- A. 15 B. 16 C. 18 D. 20 E. 22

Q10. A triangle has sides of x cm, (x + 2) cm and 2x cm. Its perimeter is 26 cm. What is the value of x?

- A. 4 B. 5 C. 6 D. 7 E. 8

Q11. If $6n - 5 = 31$, what is the value of $n + 4$?

- A. 6 B. 8 C. 10 D. 12 E. 40

Q12. What is the difference between the 8th square number and the 7th square number?

- A. 1 B. 8 C. 13 D. 15 E. 17

Q13. Solve for x.

$$5x + 3 = 2(x + 9)$$

- A. 3 B. 4 C. 5 D. 6 E. 7

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

2, -1, -4, -7

- A. $5 - 3n$ B. $2 - 3n$ C. $3n - 5$ D. $3n + 5$ E. $n - 3$

Q15. Three consecutive whole numbers add up to 48. What is the largest of the three numbers?

A. 15

B. 16

C. 17

D. 18

E. 19

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