

Advanced Number Series

Circle the letter of the best answer.

Name _____

Date _____

1. What comes next: 2, 3, 5, 9, 17, ?

A) 35

B) 33

C) 34

D) 41

Working

2. Find the next number: 0, 3, 8, 15, 24, ?

A) 35

B) 32

C) 36

D) 33

Working

3. What comes next: 2, 3, 4, 9, 16, 29, ?

A) 48

B) 45

C) 54

D) 50

Working

4. What is the missing number: 7, ?, 31, 63, 127

A) 19

B) 17

C) 16

D) 15

Working

5. Which number is wrong in this series: 3, 6, 12, 24, 46, 96?

A) 96

B) 12

C) 46

D) 24

Working

6. Which number does not belong: 4, 16, 36, 49, 64?

A) 16 B) 36 C) 64 D) 49

Working

7. In the series 4, 11, 18, 25, ... which term is 88?

A) 13th B) 14th C) 12th D) 11th

Working

8. In a series each term is the sum of the two before it. If the first two terms are 4 and 7, what is the 6th term?

A) 29 B) 47 C) 76 D) 40

Working

9. The 5th term of a series is 405 and each term is 3 times the one before. What is the 1st term?

A) 9 B) 15 C) 27 D) 5

Working

10. In the triangular numbers 1, 3, 6, 10, 15, ... what is the 20th term?

A) 210 B) 231 C) 220 D) 230

Working

Answer key — fold under before giving this to a child

1. B 2. A 3. C 4. D 5. C 6. D 7. A 8. B 9. D 10. A

1. B) 33

Each term is double the one before minus 1, so $17 \times 2 - 1 = 33$.

2. A) 35

Each term is one less than a square number, and the next square is 36, so the answer is 35.

3. C) 54

Each term is the sum of the three before it, so $9 + 16 + 29 = 54$.

4. D) 15

Each term is double the one before plus 1, so the missing term is $7 \times 2 + 1 = 15$.

5. C) 46

Each term should be double the one before, so 46 should be 48.

6. D) 49

All the others are squares of even numbers, but 49 is the square of 7.

7. A) 13th

The gaps of 7 mean $88 = 4 + 12 \times 7$, so 88 is the 13th term.

8. B) 47

The series runs 4, 7, 11, 18, 29, 47.

9. D) 5

Dividing 405 by 3 four times gives 135, 45, 15 and then 5.

10. A) 210

The 20th triangular number is 20×21 divided by 2, which is 210.