Number sequences: open practice pack

25 untimed puzzles on a difficulty 1–5 ladder.

Detail	Value
Pack	puzzles-number-sequences
Source	puzzles
Pack version	v1
Worksheet items	25
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Learner worksheet

Work the ladder from the top: the early runs fix one habit each, and the later ones combine those habits. Nothing here is timed and nothing is scored. Write the differences between neighbouring terms underneath the run before you guess, that single move solves a surprising share of them, and read the explanation even when you were right, because it names the method you can reach for next time.

Choose one answer for each item. Keep the authored hints, answer key, and worked explanations separate until you are ready to check your work.

Difficulty 1

Start here and establish the method before moving up the ladder.

1. puz-number-sequences-01: Steady steps upward

Difficulty: Difficulty 1

Each term sits the same distance above the one before it. Which number belongs where the question mark is?

Six terms in order, the last one missing. 4, 7, 10, 13, 16, ?

- A. 19
- B. 20
- C. 22
- D. 32

Your answer: _____

2. puz-number-sequences-02: Sevens going down

Difficulty: Difficulty 1

This run falls by the same amount at every step. Which number takes the place of the question mark?

A descending run of five terms. 48, 41, 34, 27, ?

- A. 13
- B. 19
- C. 20
- D. 21

Your answer: _____

3. puz-number-sequences-03: Twice as big each time

Difficulty: Difficulty 1

The gaps in this run grow, so subtraction will not settle it. Try comparing each term with the one before it by division. What replaces the question mark?

Five terms in order, the last one missing. 3, 6, 12, 24, ?

- A. 36
- B. 48
- C. 72
- D. 96

Your answer: _____

4. puz-number-sequences-04: The gap in the middle

Difficulty: Difficulty 1

The blank sits inside the run rather than at the end, and every step is the same size. Which number is missing?

Six terms in order, with the fourth missing. 5, 11, 17, ?, 29, 35

- A. 11
- B. 20
- C. 23
- D. 26

Your answer: _____

5. puz-number-sequences-05: Straight through zero

Difficulty: Difficulty 1

This run keeps falling by the same amount, and it does not pause when it passes zero. Which number belongs in the blank?

Six terms in order, with the fourth missing. 14, 9, 4, ?, -6, -11

- A. -2
- B. -1
- C. 0

- D. 1

Your answer: _____

Difficulty 2

Continue in order; use the worked explanations from earlier rungs when needed.

6. puz-number-sequences-06: Three times over

Difficulty: Difficulty 2

Each term is a fixed multiple of the one before it. Which value replaces the question mark at the end of the run?

Five terms in order, the last one missing. 2, 6, 18, 54, ?

- A. 108
- B. 162
- C. 216
- D. 486

Your answer: _____

7. puz-number-sequences-07: Two runs in one line

Difficulty: Difficulty 2

The terms here jump up and down, because this line is really two separate runs written alternately. Which number belongs where the question mark is?

Eight terms in order, with the seventh missing. 3, 20, 7, 18, 11, 16, ?, 14

- A. 12
- B. 14
- C. 15
- D. 20

Your answer: _____

8. puz-number-sequences-08: Gaps that grow steadily

Difficulty: Difficulty 2

The steps in this run are not equal, but they change in a regular way. Which number completes it?

Six terms in order, the last one missing. 3, 5, 9, 15, 23, ?

- A. 31
- B. 33
- C. 35
- D. 46

Your answer: _____

9. puz-number-sequences-09: Squares with one missing

Difficulty: Difficulty 2

Every term in this run is a whole number multiplied by itself. Which value is missing from the middle?

Six terms in order, with the fourth missing. 16, 25, 36, ?, 64, 81

- A. 42
- B. 45
- C. 47
- D. 49

Your answer: _____

10. puz-number-sequences-10: Each term leans on two

Difficulty: Difficulty 2

No single step size or multiplier fits this run. Look instead at what any two neighbouring terms make together. What is the missing value?

Six terms in order, the last one missing. 4, 7, 11, 18, 29, ?

- A. 36
- B. 40
- C. 47
- D. 58

Your answer: _____

11. puz-number-sequences-11: Double, then one more

Difficulty: Difficulty 2

Each term comes from the one before it by the same two-part instruction. Which number finishes the run?

Five terms in order, the last one missing. 3, 7, 15, 31, ?

- A. 63
- B. 64
- C. 67
- D. 127

Your answer: _____

Difficulty 3

Continue in order; use the worked explanations from earlier rungs when needed.

12. puz-number-sequences-12: Two rows of differences

Difficulty: Difficulty 3

One row of differences will not settle this run. Which number belongs at the end of it?

Six terms in order, the last one missing. 1, 3, 8, 17, 31, ?

- A. 51

- B. 52
- C. 57
- D. 62

Your answer: _____

13. puz-number-sequences-13: Add five, then double

Difficulty: Difficulty 3

Two operations take turns in this run. Which number comes next?

Seven terms in order, the last one missing. 3, 8, 16, 21, 42, 47, ?

- A. 52
- B. 84
- C. 89
- D. 94

Your answer: _____

14. puz-number-sequences-14: Cubes with a little extra

Difficulty: Difficulty 3

These terms grow faster than squares do. Which value completes the run?

Six terms in order, the last one missing. 3, 10, 29, 66, 127, ?

- A. 129
- B. 216
- C. 218
- D. 254

Your answer: _____

15. puz-number-sequences-15: Position times its neighbour

Difficulty: Difficulty 3

Compare each term with the place it occupies in the run rather than with the term before it. Which number belongs at the end?

Six terms in order, the last one missing. 2, 6, 12, 20, 30, ?

- A. 42
- B. 44
- C. 49
- D. 56

Your answer: _____

16. puz-number-sequences-16: One run doubles, one climbs

Difficulty: Difficulty 3

Two rules share this line: one governs the terms in the odd places and one the terms in the even places. Which value is missing?

Eight terms in order, with the sixth missing. 2, 5, 4, 14, 8, ?, 16, 32

- A. 23
- B. 24
- C. 28
- D. 41

Your answer: _____

17. puz-number-sequences-17: One bigger every time

Difficulty: Difficulty 3

The steps in this run grow by one at each stage. Which number sits in the blank?

Seven terms in order, with the fifth missing. 1, 3, 6, 10, ?, 21, 28

- A. 12
- B. 13
- C. 14
- D. 15

Your answer: _____

Difficulty 4

Continue in order; use the worked explanations from earlier rungs when needed.

18. puz-number-sequences-18: A multiplier that will not sit still

Difficulty: Difficulty 4

The terms here are multiplied at every step, but not by the same amount each time. Which value comes next?

Six terms in order, the last one missing. 2, 4, 12, 48, 240, ?

- A. 480
- B. 720
- C. 1200
- D. 1440

Your answer: _____

19. puz-number-sequences-19: The term feeds itself

Difficulty: Difficulty 4

Nothing constant is added here and no term is a neat multiple of the one before it. Look at the digits of each term. Which number completes the run?

Six terms in order, the last one missing. 48, 60, 66, 78, 93, ?

- A. 96
- B. 102
- C. 105
- D. 108

Your answer: _____

20. puz-number-sequences-20: A familiar list in disguise

Difficulty: Difficulty 4

Subtracting the same constant from every term uncovers a well-known list of whole numbers. Which value comes next?

Seven terms in order, the last one missing. 6, 7, 9, 11, 15, 17, ?

- A. 19
- B. 21
- C. 23
- D. 25

Your answer: _____

21. puz-number-sequences-21: Odd places climb, even places leap

Difficulty: Difficulty 4

The terms in the odd places follow one rule and the terms in the even places follow another. Which number is missing?

Eight terms in order, with the sixth missing. 5, 3, 11, 9, 17, ?, 23, 81

- A. 12
- B. 18
- C. 27
- D. 36

Your answer: _____

22. puz-number-sequences-22: Looking two terms back

Difficulty: Difficulty 4

Each term is built from the two before it, but not by simply adding them together. What is the next value?

Seven terms in order, the last one missing. 1, 3, 5, 11, 21, 43, ?

- A. 64
- B. 85
- C. 86
- D. 107

Your answer: _____

Difficulty 5

Continue in order; use the worked explanations from earlier rungs when needed.

23. puz-number-sequences-23: Three rows down

Difficulty: Difficulty 5

Two rows of differences are not enough for this run, and the missing term sits inside it. Which value belongs

there?

Six terms in order, with the fifth missing. 2, 10, 30, 68, ?, 222

- A. 106
- B. 118
- C. 124
- D. 130

Your answer: _____

24. puz-number-sequences-24: Digits and places together

Difficulty: Difficulty 5

Each step here depends both on the digits of the term it starts from and on how far along the run that step falls. Which value completes it?

Six terms in order, the last one missing. 7, 21, 30, 42, 72, ?

- A. 81
- B. 84
- C. 117
- D. 126

Your answer: _____

25. puz-number-sequences-25: Two runs of different character

Difficulty: Difficulty 5

Two runs are interleaved here. One grows out of its own earlier terms; the other depends on the place it occupies. Which number fills the gap?

Ten terms in order, with the sixth missing. 3, 6, 4, 9, 7, ?, 11, 21, 18, 30

- A. 12
- B. 14
- C. 15
- D. 16

Your answer: _____

Authored hints

Only hints supplied by the puzzle authors are included. Items without a source hint are listed as missing; no hint text is generated or inferred.

0 worksheet items do not have an authored hint. No hint text was generated for them.

puz-number-sequences-01: Write the gap between each pair of neighbouring terms underneath the run and check they all match.

puz-number-sequences-02: Subtract each term from the one before it, and count the size of the gap rather than the numbers inside it.

puz-number-sequences-03: Divide each term by the one before it; if those results agree, you have the rule.

puz-number-sequences-04: Find the step from a pair you can see, apply it once to the term on the left of the

blank, then check forwards.

puz-number-sequences-05: Carry on subtracting the same amount past zero instead of treating zero as a floor the run must land on.

puz-number-sequences-06: Work out the multiplier from two different pairs of neighbours before you use it on the blank.

puz-number-sequences-07: Read every other term as a run of its own, starting from the very first term.

puz-number-sequences-08: Write the differences in one row, then take the differences of that row as well.

puz-number-sequences-09: Ask what each term is the square of, and write those roots in a row of their own.

puz-number-sequences-10: Add each pair of neighbouring terms and see whether the total is already sitting in the run.

puz-number-sequences-11: State the rule as a sentence with the two operations in order, then apply it exactly once.

puz-number-sequences-12: Difference the run, then difference that row too, and see how the second row is changing.

puz-number-sequences-13: Label each step with the operation that produced it, then read off which operation is due.

puz-number-sequences-14: Write the cubes 1, 8, 27, 64, 125 beneath the run and look at the difference between the rows.

puz-number-sequences-15: Number the places 1, 2, 3 and ask what each term is made of once you know its place.

puz-number-sequences-16: The terms in the even places form a run of their own, and the last of them is already printed.

puz-number-sequences-17: Work out the gaps you can see, continue the pattern in the gaps, then check your value against the terms on the right.

puz-number-sequences-18: Divide each term by the one before it, then treat those results as a little run in their own right.

puz-number-sequences-19: Add the digits of each term together and compare that total with the step that follows it.

puz-number-sequences-20: Try subtracting a small constant from every term and see whether the results are a list you already know.

puz-number-sequences-21: Take the terms in the even places on their own, and use the very last term of the line to test your rule.

puz-number-sequences-22: Try previous term plus a multiple of the term before that, and test the multiple on every printed term.

puz-number-sequences-23: Keep differencing until a row stops changing, then rebuild the table from the bottom row upwards.

puz-number-sequences-24: Divide each step by the digit sum of the term it starts from, and look at what those four results spell out.

puz-number-sequences-25: Number the even places 1, 2, 3, 4, 5 and compare each of those terms with its own place number.

Answer key

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Number sequences: open practice pack answer key

Item	Choice	Answer
puz-number-sequences-01	A	19
puz-number-sequences-02	C	20
puz-number-sequences-03	B	48
puz-number-sequences-04	C	23
puz-number-sequences-05	B	-1
puz-number-sequences-06	B	162
puz-number-sequences-07	C	15
puz-number-sequences-08	B	33
puz-number-sequences-09	D	49
puz-number-sequences-10	C	47
puz-number-sequences-11	A	63
puz-number-sequences-12	A	51
puz-number-sequences-13	D	94
puz-number-sequences-14	C	218
puz-number-sequences-15	A	42
puz-number-sequences-16	A	23
puz-number-sequences-17	D	15
puz-number-sequences-18	D	1440
puz-number-sequences-19	C	105
puz-number-sequences-20	B	21
puz-number-sequences-21	C	27
puz-number-sequences-22	B	85
puz-number-sequences-23	D	130
puz-number-sequences-24	D	126
puz-number-sequences-25	B	14

Worked explanations

puz-number-sequences-01: This is an arithmetic run, so measure a gap rather than guessing at the shape. 7 - 4 = 3, 10 - 7 = 3, 13 - 10 = 3: the step never changes, so the missing term is 16 + 3 = 19. Reading the step as 4 gives 20 and doubling the last term gives 32, both of which come from looking at the run as a whole instead of at one pair of neighbours. Whenever a run climbs steadily, write the differences underneath it before you predict anything.

puz-number-sequences-02: The difference method works on a falling run too, with subtraction: 48 - 41 = 7 and 41 - 34 = 7, so the step is a steady 7 down and the missing term is 27 - 7 = 20. Counting the whole numbers from 48 down to 41 and calling the step 8 is the classic fence-post slip, and it lands on 19; reading

the step as 6 lands on 21. Applying the step twice, as though the blank were two rungs further on, gives 13. Count the gaps, never the numbers sitting at their ends.

puz-number-sequences-03: When the differences grow, test the ratio instead: 6 ÷ 3 = 2, 12 ÷ 6 = 2 and 24 ÷ 12 = 2. The run doubles, so the missing term is 24 x 2 = 48. Carrying on the last difference of 12 gives 36, multiplying by 3 gives 72, and doubling twice, as though the blank sat two places along, gives 96. The habit worth keeping is to switch from differences to ratios the moment the gaps stop being equal, and to confirm the ratio on at least two pairs.

puz-number-sequences-04: A blank inside the run is easier than it looks: measure the step from a pair you can see, then take one step forward from the term on its left. Here 11 - 5 = 6 and 17 - 11 = 6, so the missing term is 17 + 6 = 23, and 23 + 6 = 29 confirms it against the term on the right. Stepping the wrong way from 17 lands on a value already printed in the run, which is the tell that you have gone backwards. Half a step in either direction gives 20 or 26, and neither is consistent with both neighbours at once.

puz-number-sequences-05: The step is 5 down (14 to 9, then 9 to 4), and crossing zero changes nothing about it. One more step from 4 gives -1, and a further step gives -6, which matches the printed term and confirms the rule. Expecting the run to touch zero on its way past is the usual slip; so is working out 5 - 4 the comfortable way round and dropping the minus sign to report 1. Reading the step as 6 gives -2. Negative terms obey exactly the same rule as positive ones, so keep subtracting rather than switching to a new story at the sign change.

puz-number-sequences-06: Divide neighbouring terms to recover the multiplier: 6 ÷ 2, 18 ÷ 6 and 54 ÷ 18 all give 3, so the run triples and the missing term is 54 x 3 = 162. Falling back on doubling produces 108, multiplying by 4 produces 216, and tripling twice, as though the blank sat two places further on, produces 486. With a geometric run the cheapest safety check is to divide the value you have found by the term before it and confirm the same multiplier comes back.

puz-number-sequences-07: When neighbouring terms rise and fall alternately, split the line by position before doing any arithmetic. The terms in the odd places are 3, 7, 11 and climb by 4; the terms in the even places are 20, 18, 16, 14 and fall by 2. The blank occupies an odd place, so it continues the climbing run: 11 + 4 = 15. Applying the falling rule there gives 14, and stepping from the neighbour beside the blank instead of from the term two places back gives 20 or 12. Alternating signs in the differences are the signal to split.

puz-number-sequences-08: Build a difference table. The first differences are 2, 4, 6, 8, and the differences of those are a constant 2, so the next first difference is 10 and the missing term is 23 + 10 = 33. Holding the difference at 8 gives 31 and jumping it to 12 gives 35; both keep the first row moving but ignore what the second row says. A second row that is constant is the fingerprint of this family of runs, and writing it out is faster than hunting for a rule about the terms themselves.

puz-number-sequences-09: Read the terms as squares rather than as a run: 16 = 4 x 4, 25 = 5 x 5, 36 = 6 x 6, and the printed 64 and 81 are 8 x 8 and 9 x 9. The roots run 4, 5, 6, 7, 8, 9, so the blank is 7 x 7 = 49. Multiplying the two neighbouring roots instead of squaring one gives 6 x 7 = 42. Going by differences alone is slower and easier to break here, since the gaps are 9, 11, 13, 15: holding one of them fixed produces 45 or 47. Knowing the squares up to about 15 x 15 on sight saves real work in this category.

puz-number-sequences-10: This is a recursive run: each term is the sum of the two before it. Test it on everything printed (4 + 7 = 11, 7 + 11 = 18, 11 + 18 = 29), and then the missing term is 18 + 29 = 47. Adding the term three places back rather than the one immediately before gives 29 + 11 = 40, and simply doubling the last term gives 58. Whenever growth looks faster than a fixed step but slower than doubling, try the sum of the previous pair before reaching for anything more exotic.

puz-number-sequences-11: Each term is double the previous one plus 1: 3 doubles to 6, plus 1 is 7; 7 doubles to 14, plus 1 is 15; 15 doubles to 30, plus 1 is 31. So the missing term is 31 x 2 + 1 = 63. Order matters in a two-part rule, adding 1 first and doubling afterwards gives 64, which is why it pays to say the instruction aloud in words before applying it. Adding the position number instead of 1 gives 67, and running the whole rule twice carries you one term past the blank to 127.

puz-number-sequences-12: Take differences twice. The first differences are 2, 5, 9, 14, and the differences of those are 3, 4, 5: a row that climbs by 1 rather than staying still. The next second difference is therefore 6, the next first difference is 14 + 6 = 20, and the missing term is 31 + 20 = 51. Taking the second difference as 7 gives 52, doubling it to 12 gives 57, and doubling the last term gives 62. The general move: keep differencing until a row is constant or obviously regular, then build back up one row at a time.

puz-number-sequences-13: Alternating rules show up in the pattern of the gaps: 3 to 8, 16 to 21 and 42 to 47 each add 5, while 8 to 16 and 21 to 42 each double. The operations therefore run add, double, add, double, and the step just printed was an addition, so a doubling is due: 47 x 2 = 94. Taking another turn of the addition gives 52, doubling the term two places back gives 84, and adding the last two terms gives 89. With alternating rules, track which operation was used last rather than how large the terms look.

puz-number-sequences-14: Line the run up against the cubes 1, 8, 27, 64, 125 and look at what is left over: every term is exactly 2 more. The sixth cube is 6 x 6 x 6 = 216, so the missing term is 216 + 2 = 218. Reporting the cube itself and forgetting the constant gives 216, adding 2 to the previous term rather than to the next cube gives 129, and doubling the last term gives 254. When growth outpaces the squares, compare the run with the cubes first; a constant leftover is the whole rule and is quicker to spot than three rows of differences.

puz-number-sequences-15: Index the terms and the rule appears: the first is 1 x 2, the second is 2 x 3, the third is 3 x 4, the fourth is 4 x 5. Each term is its position multiplied by the next whole number, so the sixth term is 6 x 7 = 42. Reading the position one place too far gives 7 x 8 = 56, and squaring the larger factor gives 7 x 7 = 49. There is a second route: the differences are 4, 6, 8, 10, rising by 2, so the next is 12 and 30 + 12 = 42 again. Assuming those differences rise by 4 instead gives 44. Two independent routes agreeing is the confirmation worth having.

puz-number-sequences-16: Split the line by position first. The odd places hold 2, 4, 8, 16, which doubles each time; the even places hold 5, 14, the blank, and 32. Since 14 - 5 = 9, the even run climbs by 9, so the blank is 14 + 9 = 23, and 23 + 9 = 32 confirms it against the printed final term. Applying the doubling rule to the even run gives 28, stepping forwards from 32 instead of backwards gives 41, and reading a step of 10 from a gap that spans both runs gives 24. Separate the two runs before measuring anything, or every gap you measure mixes them.

puz-number-sequences-17: The gaps so far are 2, 3, 4, each one larger than the last, so the gap after 10 is 5 and the blank is 10 + 5 = 15. Check it forwards: gaps of 6 and 7 then give the printed 21 and 28, which is what makes the value defensible rather than merely plausible. These are the triangular numbers (the running totals of 1, 2, 3, 4) a shape worth recognising on sight. Holding the gap at 4 gives 14, reusing the earlier gap of 3 gives 13, and doubling 6 gives 12; each of those breaks the run before it reaches 21.

puz-number-sequences-18: Divide each term by the one before it and write those results in a row of their own: 4 ÷ 2 = 2, 12 ÷ 4 = 3, 48 ÷ 12 = 4, 240 ÷ 48 = 5. The multipliers themselves form a run climbing by 1, so the next multiplier is 6 and the missing term is 240 x 6, which is 1440. Reusing the previous multiplier of 5 gives 1200, trebling gives 720, and falling back on plain doubling gives 480. The lesson is that a ratio check can produce a sequence of its own: when the ratios are not constant, look at how they change before deciding the run is irregular.

puz-number-sequences-19: The steps are 12, 6, 12, 15. Erratic until you notice where they come from. Each term is the previous term plus the sum of that term's own digits: 48 + 4 + 8 = 60, 60 + 6 + 0 = 66, 66 + 6 + 6 = 78, 78 + 7 + 8 = 93. So the missing term is 93 + 9 + 3 = 105. Reusing the previous step of 15 gives 108, adding only the units digit gives 96, and adding only the tens digit gives 102. When steps look random, test whether the step is computed from the term itself; a rule that reads the digits is invisible to a difference table.

puz-number-sequences-20: Take 4 off every term and you are left with 2, 3, 5, 7, 11, 13: the prime numbers in order. This is the one puzzle in the whole set that assumes you know them, so it is worth saying outright. The next prime after 13 is 17, so the missing term is 17 + 4 = 21. Skipping ahead to 19 as the next prime gives 23, adding the offset a second time gives 25, and repeating the last gap of 2 gives 19, but the gaps so

far are 1, 2, 2, 4, 2, which is not something you can extend on its own. When gaps are irregular but small, subtract a constant and see whether a list you recognise appears.

puz-number-sequences-21: Separate the two runs before touching any arithmetic. The odd places hold 5, 11, 17, 23, adding 6 each time; the even places hold 3, 9, the blank, and 81. Since 3 x 3 = 9, try tripling: the blank is 9 x 3 = 27, and 27 x 3 = 81 matches the printed final term, so the rule holds across the whole even run. Adding 3 rather than multiplying gives 12, doubling gives 18, and stepping the multiplier up to 4 gives 36. Each of which fails the check against 81. An interleaved run usually hands you a later term for free; always spend it on a check.

puz-number-sequences-22: Try a weighted pair rule: take the previous term and add twice the one before that. It holds everywhere printed (5 = 3 + 2 x 1, 11 = 5 + 2 x 3, 21 = 11 + 2 x 5, 43 = 21 + 2 x 11), so the missing term is 43 + 2 x 21 = 85. Dropping the weight and adding the pair plainly gives 64, putting the weight on the newer term instead gives 21 + 2 x 43 = 107, and doubling the last term gives 86, which sits close enough to the truth to be tempting. That near miss is why a candidate rule must be tested on three or four printed terms, not one.

puz-number-sequences-23: Build the table from the terms you can see: first differences 8, 20, 38, then second differences 12 and 18, then a third difference of 6. Assume that third row is constant and work back up. The next second difference is 18 + 6 = 24, the next first difference is 38 + 24 = 62, and the missing term is 68 + 62 = 130. Now check upwards from the far end: 222 - 130 = 92, so the second difference there is 92 - 62 = 30, exactly 6 more than 24, and the table closes. Holding the second difference at 18 gives 124, holding it at 12 gives 118, and reusing the first difference of 38 gives 106.

puz-number-sequences-24: Work out each step, then divide it by the digit sum of the term it started from. From 7 the step is 14 and the digit sum is 7, giving 2; from 21 the step is 9 with digit sum 3, giving 3; from 30 the step is 12 with digit sum 3, giving 4; from 42 the step is 30 with digit sum 6, giving 5. Those quotients are simply the position of the term being produced, so each term is the previous term plus its digit sum times the new position. The blank is the sixth term: 72 + 6 x 9 = 126. Adding the digit sum alone gives 81, using the units digit in place of the digit sum gives 84, and keeping the multiplier at 5 gives 117.

puz-number-sequences-25: Split by position, then treat the two runs completely differently. The odd places hold 3, 4, 7, 11, 18, where each term is the sum of the two before it. The even places hold 6, 9, the blank, 21 and 30, and these are position squared plus 5: the first is 1 + 5, the second is 4 + 5, the fourth is 16 + 5 and the fifth is 25 + 5. The blank is the third of them, so it is 9 + 5 = 14. Confirm it from the gaps: 3, 5, 7, 9 rising by 2 is what a squared rule always produces. Holding that gap at 3 gives 12, applying the summing rule to the even run gives 15, and adding the neighbouring term from the other run gives 16.

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