Name:

Exam Style Questions

Sequences



Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

- 1. Read each question carefully before you begin answering it.
- 2. Don't spend too long on one question.
- 3. Attempt every question.
- 4. Check your answers seem right.
- 5. Always show your workings

Revision for this topic

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Video 286 Video 287



	1. Here are the first four terms of a number sequence.						
	8 14 20 26						
	(a) Write down the next term of the number sequence.	(a)					
2	32						
(1)							
	(b) Explain how you found your answer.	(b)					
ed 6	The sequence is increasing by 6, so I added 6 to 26.						
	Here are the first four terms of a number sequence.	2. He	2.				
	2 5 8 11						
	(a) (i) Write down the next term of the number sequence.	(a)					
	14						
(1)							
	(ii) Explain how you found your answer.						
ed 3	The sequence is increasing by 3, so I added 3						
(1)	to 11.						
	The 40th term of the number sequence is 119.	The					
	(b) Work out the 41st term of the number sequence.	(b)					
(1)	122						
!2	(b) Work out the 41st term of the number sequence.						

3. Here are the first four terms of a number sequence.

> 11 15 19 23

(i) Write down the next term of the number sequence. (a)

(1)

(ii) Explain how you found your answer.

The sequence is increasing by 4, so I added 4 to 23. (1)

The 100th term of the number sequence is 407.

(b) Work out the 99th term of the number sequence.

(1)

Here are the first four terms of a number sequence. 4.

> 19 22 25 28 16 7

40 43 46 (49)

Work out the difference between the 10th term and 15th term in the sequence.

15

5.	(a)	Write o	rite down the next term in this sequence.				
		5	9	13	17		21
							. ,
	(b)					nuing the seque	
			get rm	the	ne>	ct term, ac	dd 4 to the previous
							(1)
6.	(a)	Write o	lown th	ne next	term i	in this sequence	
		2	6	18	54		162
	(b)					nuing the seque term, mul	nce. Tiply the previous
		tern	n by	3.			
							(1)
7.	(a)	Write o	lown th	ne next	term i	in this sequence	
		256	128	64	32		16
							(1)
	(b)	Descril	be the	rule fo	r conti	nuing the seque	nce.
		To g			ext	term, divi	de the previous
							(1)

8.	Write	dow	n the n	ext two	numb	ers in th	is se	quence.			
		7	8	10	13	17		22			
						1	7		and	22	 (1)
9.	Write	e dow	n the n	ext two	numb	ers in th	is se	quence.			
		2	5	11	23						
							47	7	and	95	 (1)
10.	Here	are t	he first	five te	rms of	a numbe	er se	quence.			
		9	15	21	27	33					
	(a)	(i)	Write o	down th	ne next	term of	the n	umber se	quence.		
										39	
											(1)
		(ii)	Explai	n how	you fo	und your	ansı	wer.			
		Th	e se	quen	ce is	incre	asii	ng by 6	, so I	added 6	
		to	33.				•••••	••••••			(1)
	302 is not a term in this number sequence.										
	(b) Explain why.										
	302 is an even number, all the numbers in the sequence are odd										
		in	the	seq	uen	ce ar	e c	dd			
											(1)

11.	Here are the first four terms of a number sequence.								
	8 12 16 20								
	(a) (i) Write down the next term in the sequence.								
		(1)							
	(ii) Explain how you found your answer.								
	The sequence is increasing by 4, so I added 4								
	to 20.	(1)							
	(b) Write down the 9th term in the sequence. 8 12 16 20 24 28 32 36 40 40								
		(1)							
	Ricky says 1001 is in the sequence.								
	(c) Explain why Ricky is wrong. 1001 is an odd number, all the numbers								
	in the sequence are even								
		(1)							
12.	Here are the first 4 terms in a number sequence.								
	132 124 116 108								
	(a) Write down the next two terms in this number sequence.								
	100 and 92	 (1)							
	11 cannot be a term in this number sequence.								
	(b) Explain why.								
	11 is an odd number, all the numbers in								
	the sequence are even	(1)							

13. Here are the first five terms of a number sequence.

3 8 13 18 23 28 33 38 43 48

(a) Work out the 10th term of this number sequence.

48

Here are the first four terms of another number sequence.

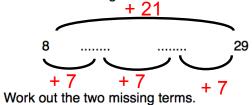
-2 4 _{10 16} 22 28 34 40 46 52 58

(b) Find **two** numbers that are in both number sequences.

28, 58

14. Here is a number sequence.

The rule for finding the next term is to add a, where a is an integer.



15 22

15. (a) The first term of a sequence is -5

The rule for continuing the sequence.

Multiply by 4 then Subtract 3

What is the second term of the sequence?

$$-5 \times 4 = -20$$

-23

(b) Here is a rule for continuing a different sequence.

Add 4 then Multiply by 2

The second term of this sequence is 20. What is the first term?

$$20 \div 2 = 10$$

6

16. Here is a sequence

To find the next term the rule is

multiply by a and then subtract b, where a and b are integers.

Find the values of a and b.

17. Write down the next term in the sequence.

$$2a + b$$
 $3a + 5b$ $4a + 9b$