

			Geometric series						
			Student name:	Score:					
1.	Cons	Consider the geometric sequence 2048, 1536, 1152, 864							
	Find	[2]							
2.	The f	$_{3}=4$ .							
	(a)	Find t	the value of $\it r$ .		[2				
	(b)	Find t	the value of $S_{\rm 6}$ .		[2				
	(c)	Find t	the least value of $n$ such that $S_n > 75000$ .		[3				
3.	The f	irst ter	m of a geometric sequence is 2 and the third term is 2.205.						
4.	In a g	jeome	the sum of the first 23 terms of the sequence.  tric sequence, the fourth term is 8 times the first term. The sum ones is 2557.5. Find the 10th term of this sequence.	f the					
5.			the first three terms of a geometric sequence is 62.755, and the sumence is 440. Find the common ratio.	ım of the					
6.	The	fourth	term, $u_4$ , of a geometric sequence is 135. The fifth term, $u_5$ , is 10	01.25.					
	Ca	lculate	[2 marks]	l					
7.	Cons	sider tl	he geometric sequence $16, 8, a, 2, b, \dots$						
	(a)	Write	e down the common ratio.	[1 m	ark				
	(b)	Write	e down the value of						
		(i)	a;						
		(ii)	b.	[2 ma	ırks				
	(c)	The	sum of the first $n$ terms is 31.9375. Find the value of $n$ .	[3 ma	ırks				



**8.** Consider the sequence

512, 128, 32, 8, ...

(a) Calculate the exact value of the ninth term of the sequence.

[3 marks]

(b) Calculate the least number of terms required for the sum of the sequence to be greater than 682.6

[3 marks]





			Geometric series						
		Stude	ent name:	ANSWERS		Score:			
1.	Consi	der the geon	netric sequence	2048, 1536, 1152, 864					
	Find	the sum of th	ne first 20 terms.	$S_{20} = 8170$			[2]		
2.	The fi	rst three tern	ns of a geometri	ic sequence are $u_1 = 0.6$	$64$ , $u_2 = 1.6$ , and	$u_3 = 4$ .			
	(a)	Find the valu	r = 0 in $r = 0$	= 2.5			[2]		
	(b)	Find the valu	$\text{ue of } S_6. \qquad S_6$	5 = 103.74			[2]		
	(c)	Find the leas	st value of $n$ su	ch that $S_n > 75000$ .	n = 14		[3]		
3.	The fi	rst term of a	geometric seque	ence is 2 and the third te	rm is 2.205.				
4.	In a g	eometric sec	quence, the four	terms of the sequence th term is 8 times the firs 10th term of this sequen	st term. The sum	n of the			
5.				a geometric sequence is common ratio. $r = 0$ .		sum of the			
6.	The f	fourth term, i	u4, of a geometri	ic sequence is 135. The	fifth term, $u_5$ , is	101.25.			
	Cal	culate the su	m of the first 10	terms of the sequence.	1207.9	[2 m	arks]		
7.	Cons	ider the geor	netric sequence	16, 8, a, 2, b,					
	(a)	Write down	the common rat	tio. 0.5			[1 mark]		
	(b)	Write down	the value of						
		(i) a;	4						
		(ii) b.	1				[2 marks]		
	(c)	The sum of	the first $n$ terms	s is 31.9375. Find the v	alue of $n$ . 9		[3 marks]		



8. Consider the sequence

- (a) Calculate the exact value of the ninth term of the sequence.  $\frac{1}{128}$  [3 marks]
- (b) Calculate the least number of terms required for the sum of the sequence to be greater than 682.6 7 [3 marks]

