



THIRD SPACE
LEARNING

GCSE Exam Questions

Triangular Numbers | Number

GCSE Exam Questions: Triangular Numbers

- 1) The pattern below shows the first 4 triangular numbers



- (a) Write down the first four triangular numbers.

(1)

- (b) In the space below, draw pattern 5

(1)

- (c) Write down the 5th triangular number.

(1)
(3 marks)

- 2) List the first 6 triangular numbers.

(2 marks)

GCSE Exam Questions: Triangular Numbers

- 3) Find the difference between the 3rd and 6th triangular numbers.

(2 marks)

- 4) The triangular numbers are 1, 3, 6, 10, ...
The n th term of this sequence is $\frac{1}{2}n(n + 1)$.
Find the 250th triangular number.

(2 marks)

GCSE Exam Questions: Triangular Numbers



5) The triangular numbers are 1, 3, 6, 10,...

The n th term of this sequence is $\frac{1}{2}n(n + 1)$.

Is 4656 a triangular number?

(3 marks)

GCSE Exam Questions: Triangular Numbers Answers

	Question	Answer	Marks
1)	The pattern below shows the first 4 triangular numbers 		
(a)	Write down the first four triangular numbers.	(a) 1, 3, 6, 10	(1)
(b)	In the space below, draw pattern 5.	(b) 	(1)
(c)	Write down the 5th triangular number.	(c) 15	(1)
2)	List the first 6 triangular numbers.	Any 3 correct 1, 3, 6, 10, 15, 21	(1) (1)
3)	Find the difference between the 3rd and 6th triangular numbers.	3rd = 6 and 6th = 21 or 21 - 6 15	(1) (1)
4)	The triangular numbers are 1, 3, 6, 10, ... The n th term of this sequence is $\frac{1}{2}n(n + 1)$ Find the 250th triangular number.	$\frac{1}{2} \times 250(250 + 1)$ or 125×251 31375	(1) (1)
5)	The triangular numbers are 1, 3, 6, 10, ... The n th term of this sequence is $\frac{1}{2}n(n + 1)$ Is 4656 a triangular number?	$\frac{1}{2}n(n + 1) = 4656$ $\frac{1}{2}n^2 + \frac{1}{2}n - 4656 = 0$ or $n^2 + n - 9312 = 0$ $(n - 96)(n + 97) = 0$ or $n = 96$ Yes, 4656 is a triangular number.	(1) (1) (1)

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