Name:

Exam Style Questions

Triangular Numbers

Corbettmaths

Equipment needed: Calculator, pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

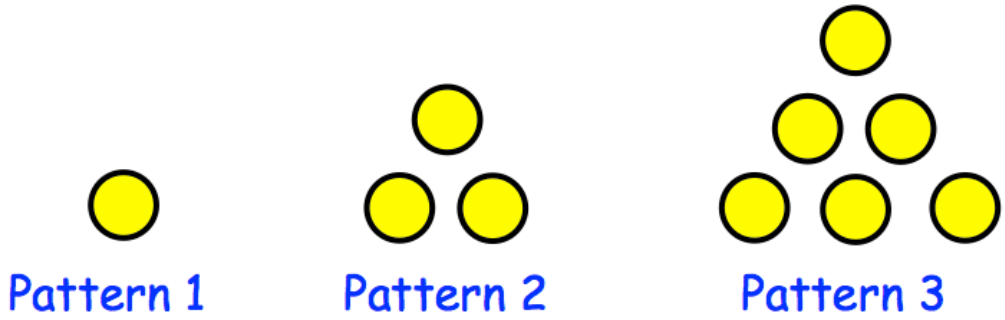
Video Tutorial

www.corbettmaths.com/contents

Video 229

Answers and Video Solutions

1. The pattern below show the first 3 triangular numbers.



(a) Write down the first three triangular numbers.

....., ..., ...

(1)

(b) In the space below, draw Pattern 4

(1)

(c) Write down the fourth triangular number.

.....

(1)

2. List the first six triangular numbers.

.....

.....

(2)

---

3. Circle the triangular number.

25 27 28 30

(1)

---

4. John is adding consecutive triangular numbers.

John says,

"when I add consecutive triangular numbers, I get another kind of special number."

What kind of number does John get?

.....

.....

(2)

5. Find the difference between the 4th and 8th triangular numbers.

.....

(2)

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6. 1 is a triangular number and also a square number.

Find another number that is also a triangular number and also a square number.

.....

(2)

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7. Lexi says

“if I multiply a triangular number by 9 and then add 1, it will give me another triangular number.”

Show Lexi is correct.

(2)

8. Write down the largest triangular number that is less than 100.

.....

(2)

---

9. Finn lists some consecutive triangular numbers.

…, 120, 136, 153, 171, …

(a) Which triangular number comes after 171?

.....

(1)

(b) Which triangular number comes before 120?

.....

(1)

---

10. Is 210 a triangular number?

.....

(2)

11. The triangular numbers are 1, 3, 6, 10, ... …

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

Find the 200th triangular number

.....

(2)

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12. The triangular numbers are 1, 3, 6, 10, ... …

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

Is 1000 a triangular number?

.....

(2)

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13. The triangular numbers are 1, 3, 6, 10, ... …

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

Is 4950 a triangular number?

.....

(2)

14. There are 6 people in a room.

Everybody shakes hands with each other, once.

Work out how many handshakes there were in total.

.....

(4)

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15. A group of people are in a room.

Everybody shakes hands with each other, once.

In total there were 28 handshakes.

How many people are in the group?

.....

(4)