Name:

Exam Style Questions

Geometric Progressions

Corbettmaths

Equipment needed: Pen and Calculator

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 375

Answers and Video Solutions

1. Here are the first five terms of a sequence

1 4 16 64 256

(a) Work out the next term in the sequence

.....

(1)

(b) Explain how you worked out the answer to part (a).

.....

.....

.....

(1)

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2. The first two terms of a geometric progression are 5 and 15

Work out the next term.

.....

(1)

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3. A geometric progression begins 2, 10, …

Work out the next three terms.

.....

(2)

4. Which of the following is a geometric progression?

Circle the correct answer.

5 8 11 14	5 6 11 17
5 10 20 40	5 7 11 17

(1)

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5. Which of the following is a geometric progression?

Circle the correct answer.

2 4 6 8	2 3 5 8
2 4 6 10	2 4 8 16

(1)

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6. The second and third terms of a geometric progression are shown.

….. 2 8 …..

Work out the first and the fourth terms of the progression.

First term …….

Fourth term …….

(2)

7. The first two terms of a geometric progression are shown.

60 12 …..

Work out the third term of the progression.

.....

(1)

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8. The first three terms of a geometric progression are shown.

$\frac{4}{5}$ $\frac{12}{35}$ $\frac{36}{245}$

Work out the fourth term of the progression.

.....

(1)

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9. The first and third terms of a geometric progression are shown.
All the terms in the progression are positive.

3 … 48 …..

Work out the fourth term of the progression.

.....

(2)

10. The second and fourth terms of a geometric progression are shown.
All the terms in the progression are negative.

….. –2 ….. –18

Work out the first of the progression.

…….

(2)

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11. The first two terms of a geometric sequence are 3 and 12.

Find the sum of the first 5 terms of the geometric sequence.

…….

(3)

12. The fifth term of a geometric sequence is 3072

The sixth term of the geometric sequence is 24576

Find the first term of the geometric sequence.

.....

(3)

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13. The ninth term of a geometric progression is double the tenth term.

The first term of the geometric progression is 300

Find the third term of the geometric progression.

.....

(2)

14. A is an arithmetic progression.

The nth term of A is $9n - 3$

B is a geometric progression.

The first three terms of B are: $3 \quad 6 \quad 12$

The 43rd term of A is the x^{th} term of B.

Find x.

.....

(4)

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15. The second term of a geometric progression is 48

The sixth term of the same progression is 12288

All the terms in the progression are positive.

Find the fifth term.

.....

(3)

16. Here are the first four terms of a sequence.

$$2 \qquad 2\sqrt{7} \qquad 14 \qquad 14\sqrt{7}$$

Work out the fifth term of the sequence.

.....

(2)

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17. Here are the first three terms of a sequence.

$$6\sqrt{3} \qquad 18 \qquad 18\sqrt{3}$$

Work out the fourth term of the sequence.

.....

(2)

18. Here are the first four terms of a sequence.

$\sqrt{3}$ $\quad$ 6 $\quad$ $12\sqrt{3}$ $\quad$ 72

Work out the next term of the sequence.

.....

(2)

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19. S is a geometric sequence.

The first three terms of S are $(x - 15)$, x and $(3x + 20)$, where x is positive.

Find the value of x.

.....

(5)

20. S is a geometric sequence.

The first three terms of S are $(x + 18)$, x and $(2x - 15)$, where x is positive.

Find the value of x.

.....

(5)