MATHEMATICS · GRADES 4-6

Prime and composite numbers

Difficulty level: Intermediate

Mathematics: Grades 4-6

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Overview of the concept

This is how you tell whether a number splits evenly into smaller parts, like knowing you can share 12 cookies equally but 13 always leaves one left over. A teacher splitting 12 students into equal groups has several options, while 13 students always leaves one group uneven. A gardener planting in equal rows and a coach making equal teams run into the same question. Knowing which numbers split cleanly tells you right away whether equal groups are possible.



Rule

A prime number has exactly two factors: 1 and itself.

A composite number has more than two factors. The number 1 is neither prime nor composite, because it has only one factor.

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Worked examples

EXAMPLE 1

Q Is 13 prime or composite?

SOLUTION

Factors of 13: 1, 13

Only 1 and itself

-> Prime

List the factors of 13: 1 and 13 only.

A prime number has only 1 and itself as factors.

So 13 is prime.

EXAMPLE 2

Q Is 15 prime or composite?

SOLUTION

Factors of 15: 1, 3, 5, 15

More than two factors

-> Composite

List the factors of 15: 1, 3, 5, and 15.

A composite number can be divided by something other than 1 and itself.

So 15 is composite.

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Practice questions

1 Is 37 prime or composite?

- A Prime
- B Composite

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2 Is 25 prime or composite?

- A Prime
- B Composite

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3 Is 17 prime or composite?

- A Prime
- B Composite

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Is 21 prime or composite?

A Prime

B Composite

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5

Is 23 prime or composite?

A Prime

B Composite

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6

Is 29 prime or composite?

A Prime

B Composite

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Is 27 prime or composite?

A Prime

B Composite

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8

Is 31 prime or composite?

A Prime

B Composite

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9

Is 36 prime or composite?

A Prime

B Composite

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Is 19 prime or composite?

A Prime

B Composite

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ANSWER KEY

1. Prime

2. Composite

3. Prime

4. Composite

5. Prime

6. Prime

7. Composite

8. Prime

9. Composite

10. Prime

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