

Y5 Prime Numbers

KS2 Y5 Maths · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

Is 15 prime or composite?

Step 1 · Look for a factor other than 1 and 15

$$15 = 3 \times 5$$

Step 2 · 15 has factors 1, 3, 5, 15

more than two factors

Answer: 15 is composite

Check: A composite number can be made by multiplying two smaller whole numbers (not 1) ✓

2. Now try one with the steps

Is 53 prime?

Step 1 · Test 2: 53 is odd

Step 2 · Test 3: digits add to 8, not a multiple of 3

Step 3 · Test 5: does not end in 0 or 5

Step 4 · Test 7: $7 \times 7 = 49$, $7 \times 8 = 56$

Answer:

3. Practice

Have a go at each one. There is space underneath to work it out.

1. List all the prime numbers up to 19.

2. What is the only even prime number?

3. Is 1 a prime number? Write yes or no.

4. Is 27 prime or composite?

5. Is 31 prime or composite?

6. Which of these are prime: 21, 23, 25, 29, 33?

7. There are two odd composite numbers between 40 and 50. What are they?

8. Is 91 prime or composite?

9. Write 30 product of prime factors.

10. Write 36 product of prime factors.

11. What are the prime factors of 70?

12. How many prime numbers are there between 50 and 70?

13. Two prime numbers add up to 20. Give one possible pair.

14. Kai says, 'All odd numbers are prime.' Give a number to show he is wrong.

4. Before you hand it in

Saying 1 is prime.

A prime has exactly two different factors. 1 has only one factor, so it is neither prime nor composite.

Saying 2 is not prime because it is even.

2 has exactly two factors, 1 and 2, so it is prime. It is the only even prime.

Saying 51 or 91 is prime because they 'look prime'.

$51 = 3 \times 17$ and $91 = 7 \times 13$. Always test 2, 3, 5 and 7.

Writing the prime factors of 60 as 6×10 .

Keep splitting: $6 = 2 \times 3$ and $10 = 2 \times 5$, so $60 = 2 \times 2 \times 3 \times 5$.