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# Prime Numbers

Practice worksheet · KS3

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. Is 2 a prime number?

\_\_\_\_\_

2. Is 9 a prime number?

\_\_\_\_\_

3. Is 11 a prime number?

\_\_\_\_\_

4. Is 15 a prime number?

\_\_\_\_\_

5. Is 1 a prime number?

\_\_\_\_\_

6. Which one of these is prime: 21, 23, 25 ?

\_\_\_\_\_

7. Is 29 a prime number?

\_\_\_\_\_

8. Write down all the prime numbers between 10 and 20.

\_\_\_\_\_

9. Is every prime number odd?

\_\_\_\_\_

10. Is 51 a prime number?

\_\_\_\_\_

11. Is 91 a prime number?

\_\_\_\_\_

12. Which numbers between 20 and 30 are prime?

\_\_\_\_\_

13. To check whether 53 is prime, what is the largest number you need to test?

stretch

\_\_\_\_\_

14. To check whether 143 is prime, what is the largest number you need to test?

stretch

\_\_\_\_\_

15. Is 143 a prime number?

stretch

\_\_\_\_\_

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# Answers

## Prime numbers

1. nothing divides into it except 1 and 2 = yes
2.  $3 \times 3 = 9$ , so it has more than two factors = no
3. nothing divides into it except 1 and 11 = yes
4.  $3 \times 5 = 15$ , so it has more than two factors = no
5. 1 has only ONE factor (itself), and a prime needs two = no
6.  $21 = 3 \times 7$  and  $25 = 5 \times 5$ , but nothing divides 23 except 1 and 23 = 23
7. nothing divides into it except 1 and 29 = yes
8. test each one: 12, 14, 15, 16, 18 and 20 all have a factor = 11, 13, 17, 19
9. 2 is prime and even — it is the only even prime = no
10.  $3 \times 17 = 51$ , so it has more than two factors = no
11.  $7 \times 13 = 91$ , so it has more than two factors = no
12. cross out the multiples of 2, 3 and 5; 23 and 29 are what is left = 23, 29
13.  $8 \times 8 = 64$ , which is already past 53 = 7
14.  $12 \times 12 = 144$ , which is already past 143 = 11
15.  $11 \times 13 = 143$ , so it has more than two factors = no