Names (pair) _____ Date _____

Prime and Composite Numbers

Example

7 squares make only one rectangle:



7 has two factors: 1 and 7.

8 squares make two rectangles:



8 has four factors: 1, 2, 4, 8.

Remember

A **prime number** has exactly two factors: 1 and itself. A **composite number** has more than two factors. The number 1 has only one factor, so it is **neither prime nor composite**.

1 IN PAIRS Write all the factors, count them and circle.

number	factors	how many	
1			prime / composite / neither
2			prime / composite / neither
3			prime / composite / neither
4			prime / composite / neither
5			prime / composite / neither
6			prime / composite / neither
7			prime / composite / neither
8			prime / composite / neither
9			prime / composite / neither
10			prime / composite / neither
11			prime / composite / neither
12			prime / composite / neither

Names (pair) _____ Date _____

2 ON YOUR OWN **The sieve of Eratosthenes.** Cross out 1. Circle 2 and cross out all the other multiples of 2. Then circle the next number not crossed out and cross out its multiples. Keep going. At the end, circle every number not crossed out.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Prime numbers up to 50:

Whose multiples did you need to cross out? Why can you stop at 7? (Hint: $7 \times 7 = 49$.)

3 IN PAIRS True or false? Correct the false statements with an example.

a) 1 is a prime number. **true** / **false**

Correction: _____

b) All prime numbers are odd. **true** / **false**

Correction: _____

c) Every odd number is prime. **true** / **false**

Correction: _____

The Hundred Chart app · otooly.com/hundred-chart

Sieve of Eratosthenes mode: go through the sieve step by step, or sieve it yourself.

★ ON YOUR OWN **Exit card.** Is 51 a prime number? Explain.