

Name: _____ Date: _____

Prime & Composite

PRIME NUMBER: A number which only has 1 and itself as factors.

COMPOSITE NUMBER: A number that has more factors than just 1 and itself. (also called “non-prime”)

Factor the number. Write the factor pairs below and then determine whether the number is prime or composite.

<p>(1) 32</p> <p>P or C? _____</p>	<p>(2) 21</p> <p>P or C? _____</p>	<p>(3) 23</p> <p>P or C? _____</p>
<p>(4) 48</p> <p>P or C? _____</p>	<p>(5) 60</p> <p>P or C? _____</p>	<p>(6) 61</p> <p>P or C? _____</p>

Next to each number, write a “P” if the number is prime or a “C” if the number is composite.

- (7) 26 _____ (8) 29 _____ (9) 33 _____
(10) 51 _____ (11) 52 _____ (12) 63 _____
(13) 13 _____ (14) 14 _____ (15) 15 _____
(16) 72 _____ (17) 73 _____ (18) 83 _____

Factor these numbers. Remember, double one side and cut the other side in half!

(19)	120	(20)	200	(21)	92
(22)	46	(23)	84	(24)	102

Don't forget the two big tricks to factoring:

- 1) Doubling and halving – multiplying (doubling) one side by two and dividing (halving) the other side by 2
- 2) Moving zeroes – any zero as the last digit of a factor can be moved to the last digit of the other factor → 20×4 becomes 2×40

Also, what we talked about today...the divisibility rules:

- 1) Add up the digits of the number you are factoring. If that sum can be divided by 3, that means the number has 3 as a factor.
 - EXAMPLE: If you're factoring the number 57, add up the digits to the number: $5 + 7$, which equals 12. Can 12 be divided by 3? Yes! So that means 3 is a factor.
 - It's then up to you to figure out how many 3's there are. Maybe multiply 3 by a number you know. $3 \times 10 = 30$. That's too low. $3 \times 20 = 60$. That's too high, but it's close.
- 2) Add up the digits to the number you are factoring. If that sum is 9, then that means that 9 is a factor.
 - EXAMPLE: You're factoring 72. $7 + 2 = 9$ That means that 9 is a factor. 9 times what equals 72? When you figure that out, you have a new factor pair!