

Name \_\_\_\_\_

Date \_\_\_\_\_

1. Record the factors of the given numbers as multiplication sentences and as a list in order from least to greatest. Classify each as prime (P) or composite (C). The first problem is done for you.

	Multiplication Sentences	Factors	P or C
a.	8 $1 \times 4 = 8$ $2 \times 4 = 8$	The factors of 8 are: 1, 2, 4, and 8	C
b.	10 $1 \times 10 = 10$ $2 \times 5 = 10$	The factors of 10 are: 1, 2, 5, 10	C
c.	11 $1 \times 11 = 11$	The factors of 11 are: 1 and 11	P
d.	14 $1 \times 14 = 14$ $2 \times 7 = 14$	The factors of 14 are: 1, 2, 7, 14	C
e.	17 $1 \times 17 = 17$	The factors of 17 are: 1 and 17	P
f.	20 $1 \times 20 = 20$ $2 \times 10 = 20$ $4 \times 5 = 20$	The factors of 20 are: 1, 2, 4, 5, 10, 20	C
g.	22 $1 \times 22 = 22$ $2 \times 11 = 22$	The factors of 22 are: 1, 2, 11, 22	C
h.	23 $1 \times 23 = 23$	The factors of 23 are: 1 and 23	P
i.	25 $1 \times 25 = 25$ $5 \times 5 = 25$	The factors of 25 are: 1, 5, 25	C
j.	26 $1 \times 26 = 26$ $2 \times 13 = 26$	The factors of 26 are: 1, 2, 13, 26	C
k.	27 $1 \times 27 = 27$ $3 \times 9 = 27$	The factors of 27 are: 1, 3, 9, 27	C
l.	28 $1 \times 28 = 28$ $2 \times 14 = 28$ $4 \times 7 = 28$	The factors of 28 are: 1, 2, 4, 7, 14, 28	C

2. Find all factors for the following numbers and classify as prime or composite. Explain your classification of each as prime or composite.

*Prime*

Factor Pairs for 19	
1	19
<i>Only 2 factors</i>	

*Composite*

Factor Pairs for 21	
1	21
3	7
<i>More than 2 factors</i>	

*Composite*

Factor Pairs for 24	
1	24
2	12
3	8
4	6
<i>More than 2 factors</i>	

3. Bryan says that only even numbers are composite.  
 a. List all of the odd numbers less than 20 in numerical order.

*1, 3, 5, 7, 9, 11, 13, 15, 17, 19*

- b. Use your list to show that Bryan's claim is false.

*9 and 15 are odd, but they are also composite.*

4. Julie has 27 grapes to divide evenly among 3 friends. She thinks there will be no leftovers. Use what you know about factor pairs to explain if Julie is correct.

*Since  $3 \times 9 = 27$ , we know there will be no leftovers.*