

3A.1 Learning Opportunity



Name: _____

Identifying Factors

Check each number below for divisibility by 2, 3, 4, 5, 6, 8, 9, 10, 11, and 12. See Problem 1 in red below for an example.

1) Example: 1,524

Divisible by 2, 3, 4, 6, and 12

2) 1,000

3) 4,455

4) 2,160

5) 3,175

6) 8,433

7) 5,745

8) 6,200

9) 13,000

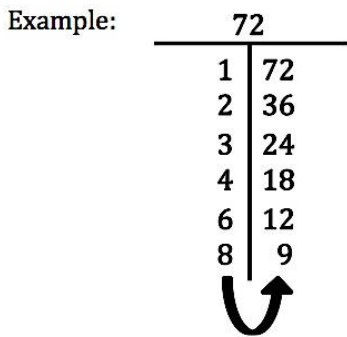
10) 45,960

11) 2,640

12) 10,577

Rules of Divisibility	
A number is divisible by...	
2	When the ones digit is even (0, 2, 4, 6, or 8). Examples: 10; 792; 1114 Non-examples: 11; 843; 15,121
3	When the sum of the digits is a multiple of three. Examples: 120; 75,834 Non-examples: 392; 1,111
4	When the tens and ones digits form a number that is a multiple of four. Examples: 11,316; 200,120 Non-examples: 711; 12,490
5	When the ones digit is a zero or a five. Examples: 15; 120; 23,985 Non-examples: 14; 201; 11,111
6	When the number is divisible by both 2 and 3. Examples: 120; 75,834 Non-examples: 693; 75,100
8	When the hundreds, tens, and ones digits form a number that is a multiple of eight. Example: 97,120; 848 Non-examples: 12,715; 5,100
9	When the sum of the digits is a multiple of nine. Examples: 81,324; 711 Non-examples: 799; 1074
10	When the ones digit is a zero. Examples: 110; 12,970 Non-examples: 8,675,309; 314
11	When the difference of the sums of alternating digits is zero or any multiple of eleven. Examples: 37,653 $3+6+3=12$ $7+5=12$ $12-12=0$ $19,261$ $1+2+1=4$ $9+6=15$ $15-4=11$
12	When the number is divisible by both 3 and 4. Examples: 11,316; 120 Non-examples: 18; 54; 11,322

For each number below, use your knowledge of divisibility rules to create a UT diagram listing factor pairs. Then, list all factors of the number in ascending order.



all factors (ascending): {1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72}

13)

56

14)

83

15)

102

16)

216