Divisibility Rules Mental Math

<u>Directions</u>: Study the divisibility rules and complete the table. Practice using mental math and show work as needed; no calculators.

A number is divisible by	Divisible	Not Divisible	
2 if the last digit is even (0, 2, 4, 6, 8).	1,334	465	
3 if the sum of the digits is divisible by 3.	306	79	
4 if the last two digits form a number divisible by 4.	924	621	
5 if the last digit is 0 or 5.	85	132	
6 if the number is divisible by 2 and 3.	1,332	44	
8 if the last three digits form a number divisible by 8.	1,864	3,180	
9 if the sum of the digits is divisible by 9.	144	33	
10 if the last digit is 0.	270	543	

- Tell whether each number is divisible by 2, 3, 4, 5, 6, 8, 9, or 10.
- **A.** 549 is divisible by
 - 3; the sum of the three digits is divisible by 3.
 - 9; the sum of the digits is divisible by 9.
- **B.** 410 is divisible by
 - 2; the last digit is even.
 - 5; the last digit is 0 or 5.
 - 10; the last digit is 0.



1. Place an "x" in each box if the number is divisible by 2, 3, 4, 5, 6, 8, 9, or 10.

(Hint: These are quick problems. If it works, mark it and move on. There are 24 correct answers.)

	2	3	4	5	6	8	9	10
56								
75								
200								
615								
744								
324								
5,188								

2. What is the number between 80 and 100 that is divisible by both 5 and 6?

Work Space (Remember, you guarantee correct answers if you choose not to show work!)

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A. 549 is divisible by

3; the sum of the three digits is divisible by 3.

9; the sum of the digits is divisible by 9.

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5; the last digit is 0 or 5.

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	2	3	4	5	6	8	9	10
56	X		X			X		
75		X		x				
200	X		X	X		X		X
615		X		X				
744	X	X	X		X	X		
324	X	X	X		x		x	
5,188	X		X					

2. What is the number between 80 and 100 that is divisible by both 5 and 6? 90

Work Space (Remember, you guarantee correct answers if you choose not to show work!)