

DIVISIBILITY RULES

LOOK AT THE DIGITS IN THE ONES PLACE	
2	Last digit is even
5	Last digit is a 5 or 0
10	Last digit is 0
CHECK THE DIGIT SUM	
3	Sum of digits is divisible by 3
6	Number is divisible by 2 AND 3
9	Sum of digits is divisible by 9
LOOK AT THE LAST DIGITS	
4	Last 2 digits form a number divisible by 4
8	Last 3 digits form a number divisible by 8

Below is a list of TEN numbers. Place each number in the circle of the factor it is divisible by. You will place some numbers in more than one circle!
(Use scrap paper to check for divisibility!)

24; 36; 80; 115; 214; 360; 975; 4,678; 29,785; 414,940

even #'s

2

24
214
36
360
80
4,678
414,940

last 2 digits

4

24
360
36
414,940
80

ends in 0 or 5

5

80
975
115
29,785
360
414,940

last 3 digits

8

24
360
80

ends in 0

10

80
414,940
360

AIM: UNIT 4 - How can we determine whether a number is divisible by another?

Name _____
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Date _____
Math 6 - Period _____

STATION 3

Let's Practice: Circle ALL the numbers that are factors of the given number. Explain your reasoning for your choices using what you know about the divisibility rules.

<p>1) Is 2,838 divisible by:</p> <p><input checked="" type="radio"/> 3 $2+8+3+8 = 21$</p> <p><input type="radio"/> 9</p> <p><input type="radio"/> 4 $\rightarrow 2,838$</p>	<p>2) Is 34,515 divisible by:</p> <p><input checked="" type="radio"/> 3 $3+4+5+1+5 = 18$</p> <p><input type="radio"/> 9</p> <p><input checked="" type="radio"/> 5 $34,515$</p>
<p>3) Is 6,240 divisible by:</p> <p><input checked="" type="radio"/> 10 ends in 0</p> <p><input checked="" type="radio"/> 2 even #</p> <p><input checked="" type="radio"/> 6 divisible by 2 ✓ " " by 3 ✓ $6+2+4+0 = 12$</p>	<p>4) Is 10,534,341 divisible by:</p> <p><input checked="" type="radio"/> 3 $1+0+5+3+4+3+4+1 = 21$</p> <p><input type="radio"/> 4 41</p> <p><input type="radio"/> 8 $\begin{array}{r} 8 \overline{) 341} \\ - 32 \\ \hline 21 \\ - 16 \\ \hline 5 \end{array}$</p>

SUMMARY:

a) Without completing the division, how can you determine if a number is divisible by 3?

The sum of the digits is divisible by 3. (multiple of 3)

b) If a number is divisible by 9, will it be divisible by 3? Explain.

Yes, 9 is a multiple of 3. 27 is divisible by 9 and 3.

Multiples of 3: 3, 6, 9, 12, 15...
" of 9: 9, 18, 27, 36...

c) If a number is divisible by 3, will it be divisible by 9? Explain.

No, 3 is not divisible by 9. (3 is not a multiple of 9)

Counter-example \rightarrow

12 is divisible by 3, but 12 is NOT divisible by 9.