

Name: Key

5th Grade Notes 4.0 Divisibility Rules

A.) 2 : a number is divisible by 2 if it is even
(the ones place is 0; 2; 4; 6; 8)

Ex: 32 ; 8,966

Not: 23 ; 7,873

*Hint: If a number is not divisible by 2, then it won't be divisible by any other even number (4; 6; 8; 10; etc.).

B.) 10 : a number is divisible by 10 if the ones place is 0

Ex: 62,000

C.) 5 : a number is divisible by 5 if the ones place is 0 or 5

Ex: 55 ; 60

D.) 3 : a number is divisible by 3 if its digits add up to a number that is divisible by 3

Ex: 66 $\rightarrow 6+6=12$; 12 is \div by 3, so 66 is too

Ex: 27 $\rightarrow 2+7=9$; divis. 3

Ex: 321 \rightarrow 3+2+1=6; divis. 3

Ex: 524 \rightarrow 5+2+4=11; not divis. 3

*If you get an answer and you don't know if it's divisible by three, add the new digits until you get a number you know.

Ex: 59, 484, 769, 998 = 78 \rightarrow

7+8=15; divis. 3 (can even do
1+5=6)

E.) 9: a number is divisible by 9 if its digits add up to a number that is divisible by 9

Ex: 81 \rightarrow 8+1=9; divis. 9

Ex: 108 \rightarrow 1+0+8=9; divis. 9

Ex: 5,364 \rightarrow 5+3+6+4=18; divis. 9

*If you get an answer and you don't know if it's divisible by nine, add the new digits until you get a number you know.

F.) 6: a number is divisible by 6 if it is divisible by both 2 and 3.

Ex: 822; divis. 2

8+2+2=12; divis. 3; 2 & 3 so also 6

Use divisibility rules to determine if each number is divisible by 2, 3, 5, 6, 9, and 10.

****FIRST** look at the number to decide if it's divisible by 2, 5, and 10. **THEN** add the digits to see if it's divisible by 3 and 9. (DO NOT add the digits for 2, 5, and 10.) Then if it's divisible by 2 and 3, it's also divisible by 6.

Ex: 9,180 (2; 5; 10)

$9+1+8+0=18$ (3; 9; also 6 because 2 & 3)

answer: divis. 2; 5; 10; 3; 9; 6

Ex: 378 (2)

$3+7+8=18$ (3; 9; also 6 because 2 & 3)

answer: divis. 2; 3; 9; 6