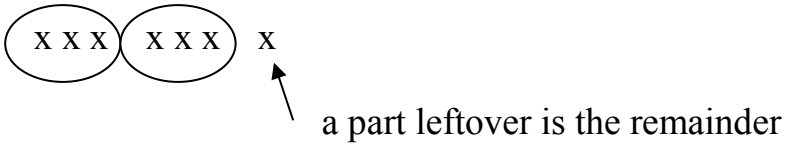
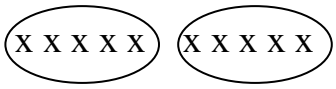
Study the following.

remainder (ri-**mayn**-dur) - a remainder is a part left over after you divide. Example: divide 7 by 3 and you get 2 with a part left over.



divisible (di-**viz**-uh-buhl) - a whole number is divisible by another whole number if the remainder is zero when you divide. Example: 10 is divisible by 5 because when you divide you get 2 with no remainder.



divisibility (di-**viz**-uh-**bil**-uh-tee) - the quality of being divisible Example: 10 has a divisibility of 2 and 5.

divisibility rules (di-**viz**-uh-**bil**-uh-tee **roolz**) - short cuts to quickly know what a number is divisible by.

divisor (di-**vye**-zur) - the number you are dividing by Example: $12 \div 4 = 3$
divisor

Say each word out loud and write it in the blank.

remainder_____
divisible_____
divisibility_____
rule_____
divisor_____

Write each definition in your own words.

remainder

divisible

divisibility

divibility rules

divisor

Write two sentences using each word.

remainder
1.

2.

divisible
1.

2.

divisibility
1.

2.

divisibility rules
1.

2.

divisor
1.

2.

Matching.

remainder	a part left over after you divide
divisible	the quality of being divisible
divisibility	the number you are dividing by
divisibility rules	the number is _____ if the remainder is zero when you divide
divisor	short cuts to quickly know what a number is divisible by

Study these definitions. Some are review.

even numbers (**ee**-vuhn) - whole numbers that can be divided evenly by 2 with no remainder. 0,2,4,6,8,10,12,141,61,8,20,22,24,26,28,…

digit (**dij**-it) - the symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 Example: the digits 2 and 3 are used in the number 3,233.

ones place (**wuhnz playss**) - the farthest place to the right in a whole number. Example: in the number 234, the 4 is in the ones place.

ones digit- the digit that is in the ones place. Example: in the number 234 the ones digit is a 4.

Say each word out loud and write it in the blank.

even_____
digit_____
ones_____
place_____

Write each definition in your own words.

even numbers

digit

ones place

ones digit

Write one sentence using each word.

even numbers
1.

digit
1.

ones place
1.

ones digit
1.

Study the following.

Even numbers end with 0, 2, 4, 6, or 8, no matter how big they are.
Examples: 204, 456, and 738 are all even.

Write 10 even numbers that are larger than 100.

Write all 10 digits.

___ , ___, ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

Underline the ones place for each number.

54 621 852 741 963 571

Circle the ones digits.

41 82 964 127 258 335

Circle the divisors.

$12 \div 3 = 4$ $21 \div 3 = 7$ $15 \div 5 = 3$ $8 \div 2 = 4$

$18 \div 3 = 6$ $16 \div 4 = 4$ $35 \div 7 = 5$ $56 \div 7 = 8$

Study the following.

Divisibility Rule for 2.

The divisibility rule for 2 is a rule that tells you whether a number is evenly divisible by 2.

The rule : if the ones digit is an even number (0, 2, 4, 6, 8) then the number you are testing, divides evenly by 2.

Examples:
204 the ones digit is a 4, which is even, so 204 divides evenly by 2.

281 the ones digit is a 1, which is <u>not</u> even, so 281 does <u>not</u> divide evenly by 2.

Circle the numbers that divide evenly by 2.

541	82	967	842	648	54
118	645	87	924	21	366
50	740	2000			

Study the following.

Divisibility Rule for 3.

The divisibility rule for 3 is a rule that tells you whether a number is evenly divisible by 3.

The rule: If the sum of the digits is divisible by three, then the number you are testing is evenly divisible by 3.

Examples:

4251 add up all the digits. $4 + 2 + 5 + 1 = 12$
12 is evenly divisible by three, $12 \div 3 = 4$
therefore 4251 is evenly divisible by three.

1337 add up all the digits. $1 + 3 + 3 + 7 = 14$
14 is not evenly divisible by three, $14 \div 3 = 4$ with a remainder of 2
therefore 1337 is not evenly divisible by three.

Circle the numbers that divide evenly by 3.

45	651	111,111
112	673	2345
453	776	296
1324	99	45,451

Study the following.

Divisibility Rule for 5.

The divisibility rule for 5 is a rule that tells you whether a number is evenly divisible by 5.

The rule: If the ones digit is a 0 or a 5, then the number you are testing is evenly divisible by 5.

Count by 5s to see that this is true. 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, etc. all end in a 0 or a 5, and are divisible by 5.

Examples:
4785 the ones digit is a 5, so is evenly divisible by 5
340 the ones digit is a 0, so is evenly divisible by 5
783 the ones digit is <u>not</u> a 0 or 5, so is <u>not</u> evenly divisible by 5

Circle the numbers that are divisible by 5.

512	535	980	647	835	820
941	553	709	65	210	787

Study the following.

Divisibility Rule for 10.

The divisibility rule for 10 is a rule that tells you whether a number is evenly divisible by 10.

The rule: If the ones digit is a zero, then the number you are testing is evenly divisible by 10.

Examples:
240 the ones digit is a 0, so it is evenly divisible by 10.
386 the ones digit is not a 0, so is not evenly divisible by 10.
800 the ones digit is a 0 so it is evenly divisible by 10.

Circle the numbers that are divisible by 10.

520	90	654	634	850	940
970	600	391	810	877	900

Study the summary of divisibility rules.

Divisor	Rule
2	The ones digit is an even number. (0, 2, 4, 6,or 8)
3	The sum of the digits is divisible by three.
5	The ones digit is a 0 or 5.
10	The ones digit is a 0.

Make up two examples of a number greater than 100 that can be divided evenly by 2 and using the rules above, explain why it is divisible by 2.

1. _____ Why? _____

2. _____ Why? _____

Make up two examples of a number greater than 100 that can be divided evenly by 3 and using the rules above, explain why it is divisible by 3.

1. _____ Why? _____

2. _____ Why? _____

Make up two examples of a number greater than 100 that can be divided evenly by 5 and using the rules above, explain why it is divisible by 5.

1. _____ Why? _____

2. _____ Why? _____

Make up two examples of a number greater than 100 that can be divided evenly by 10 and using the rules above, explain why it is divisible by 10.

1. _____ Why? _____

2. _____ Why? _____

What is the divisibility rule for 2?

What is the divisibility rule for 3?

What is the divisibility rule for 5?

What is the divisibility rule for 10?

Check for divisibility of the following numbers. Put a checkmark in any column that applies.

Number	divisible by 2?	divisible by 3?	divisible by 5?	divisible by 10?
75				
234				
101				
206				
3255				
2100				