

Do Now

Please take out your 2.5 notes and review the divisibility rules we learned on Friday.

We will be using these rules throughout class today.

Thanks!



NOTES

Rules of Divisibility

A number is divisible by...

2

When the ones digit is a multiple of two.

Examples: 170; 3,798 Non-examples: 15; 1,021

3

When the sum of the digits is a multiple of three.

Examples: 120; 75,834 Non-examples: 392; 1,111

Rules of Divisibility

A number is divisible by...

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

Rules of Divisibility

A number is divisible by...

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

Rules of Divisibility

A number is divisible by...

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

Rules of Divisibility

A number is divisible by...

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

Rules of Divisibility

A number is divisible by...

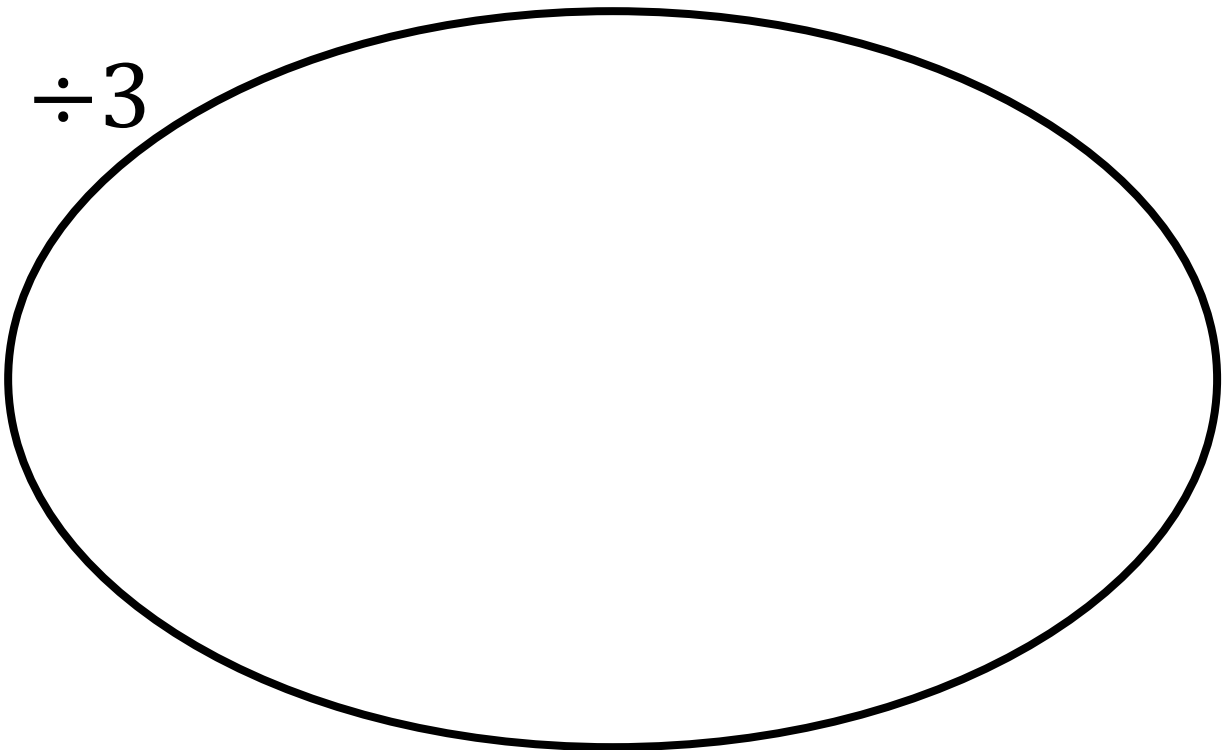
3

When the sum of the digits is a multiple of three.

Examples: 120; 75,834 Non-examples: 392; 1,111

27; 72; 91; 92; 100; 150; 165; 169; 204; 225; 281; 286; 303; 318;
348; 363; 382; 392; 415; 468; 477; 7,168; 9,042; 35,120

$\div 3$



Rules of Divisibility

A number is divisible by...

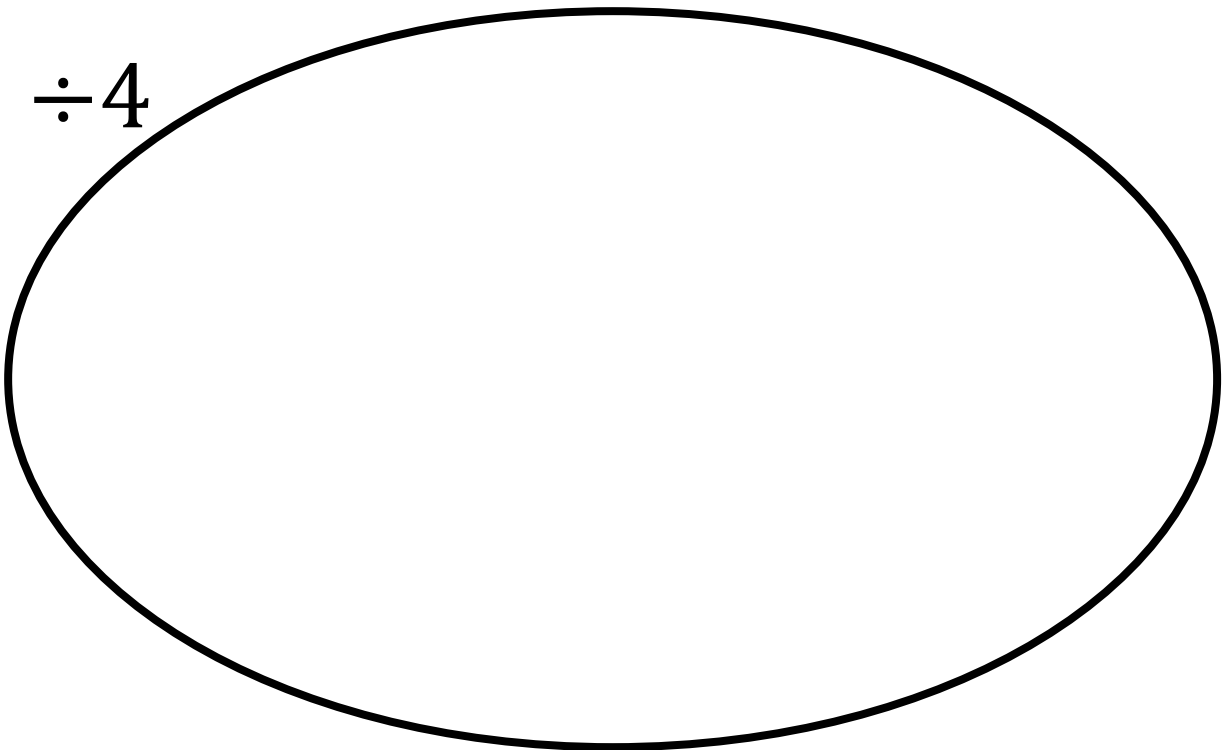
4

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

27; 72; 91; 92; 100; 150; 165; 169; 204; 225; 281; 286; 303; 318;
348; 363; 382; 392; 415; 468; 477; 7,168; 9,042; 35,120

$\div 4$



Rules of Divisibility

A number is divisible by...

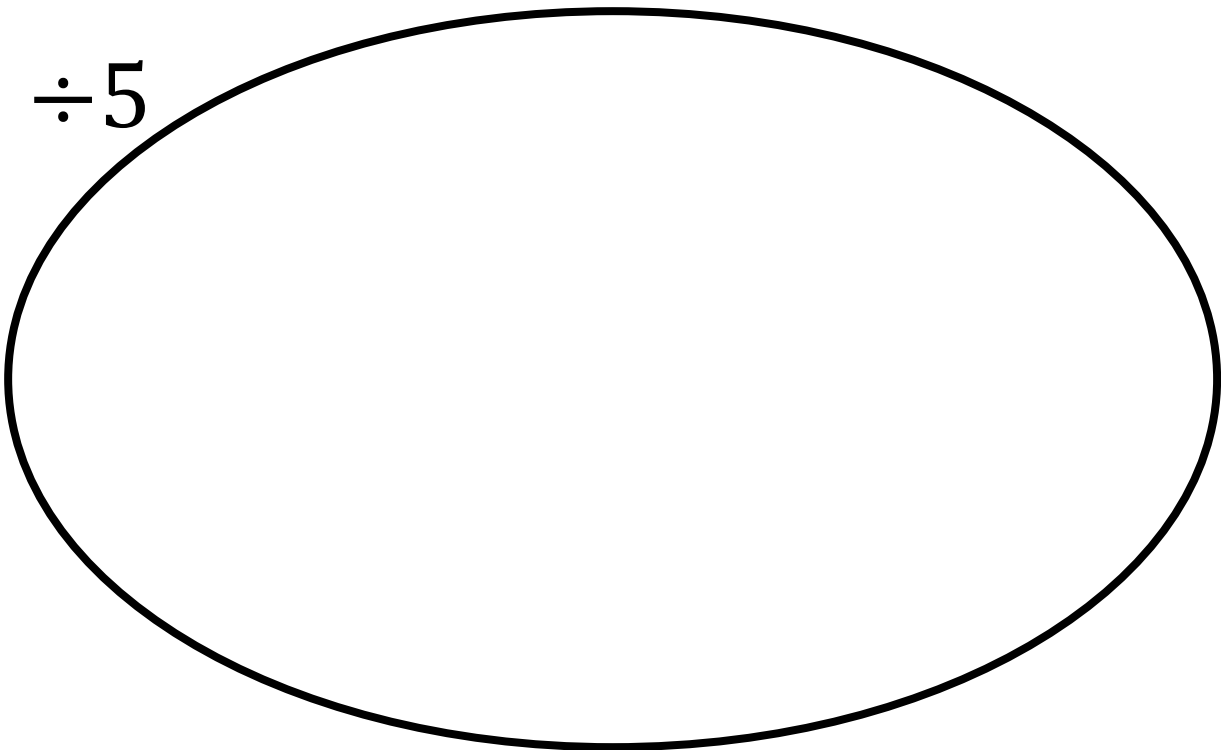
5

When the ones digit is a zero or a five.

Examples: 15; 120; 23,985 Non-examples: 14; 201; 11,111

27; 72; 91; 92; 100; 150; 165; 169; 204; 225; 281; 286; 303; 318;
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$\div 5$



Rules of Divisibility

A number is divisible by...

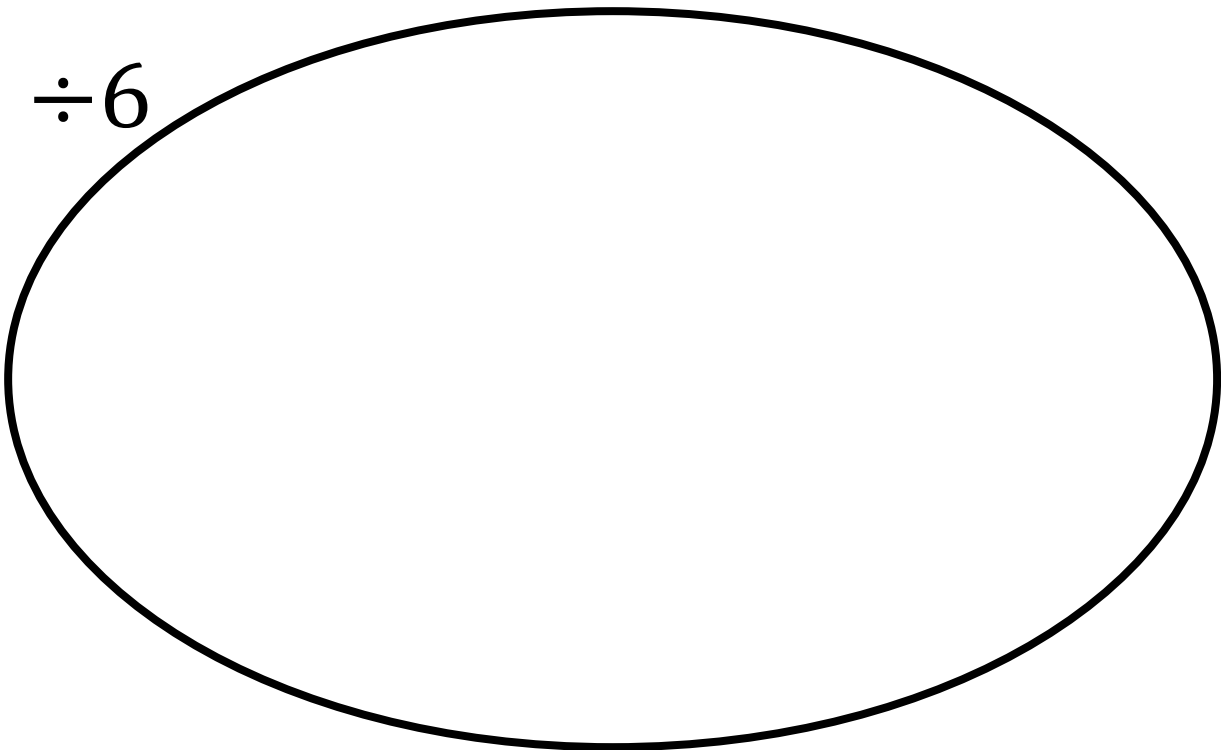
6

When the number is divisible by both 2 and 3.

Examples: 120; 75,834 Non-examples: 693; 75,100

27; 72; 91; 92; 100; 150; 165; 169; 204; 225; 281; 286; 303; 318;
348; 363; 382; 392; 415; 468; 477; 7,168; 9,042; 35,120

$\div 6$



Rules of Divisibility

A number is divisible by...

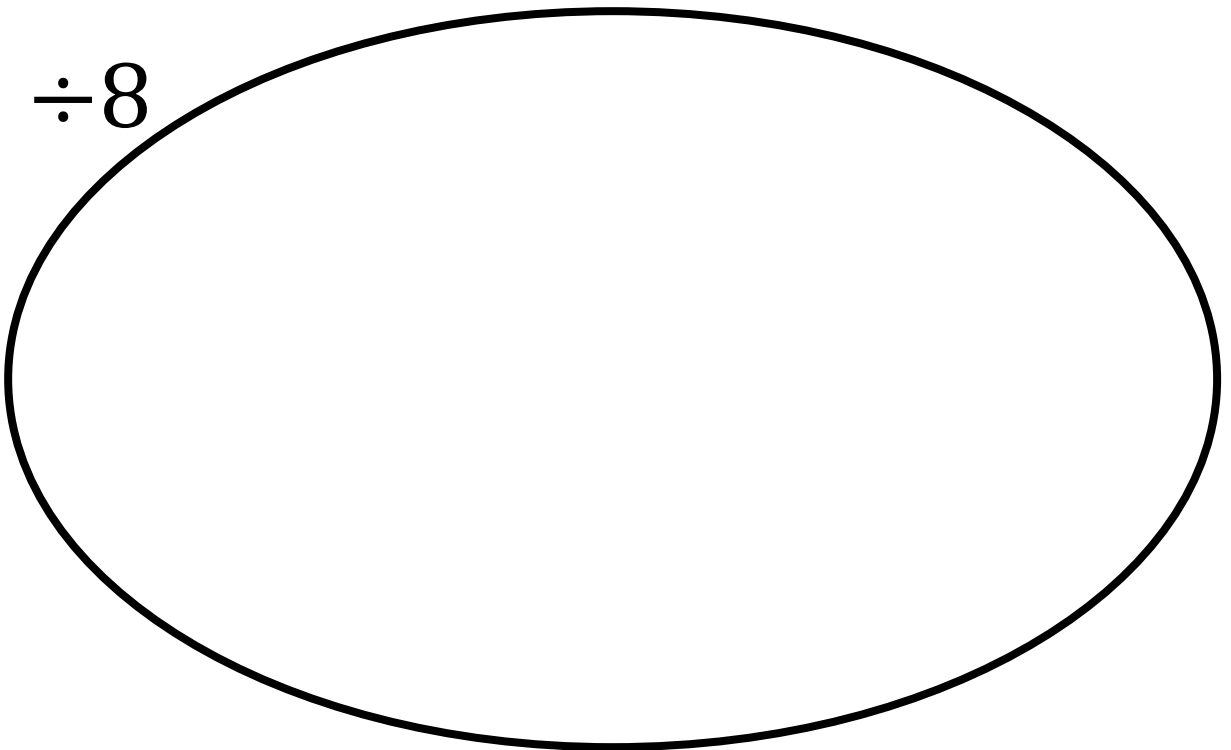
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When the hundreds, tens, and ones digits form a number that is a multiple of eight.

Example: 97,120; 848 Non-examples: 12,715; 5,100

27; 72; 91; 92; 100; 150; 165; 169; 204; 225; 281; 286; 303; 318;
348; 363; 382; 392; 415; 468; 477; 7,168; 9,042; 35,120

$\div 8$



Rules of Divisibility

A number is divisible by...

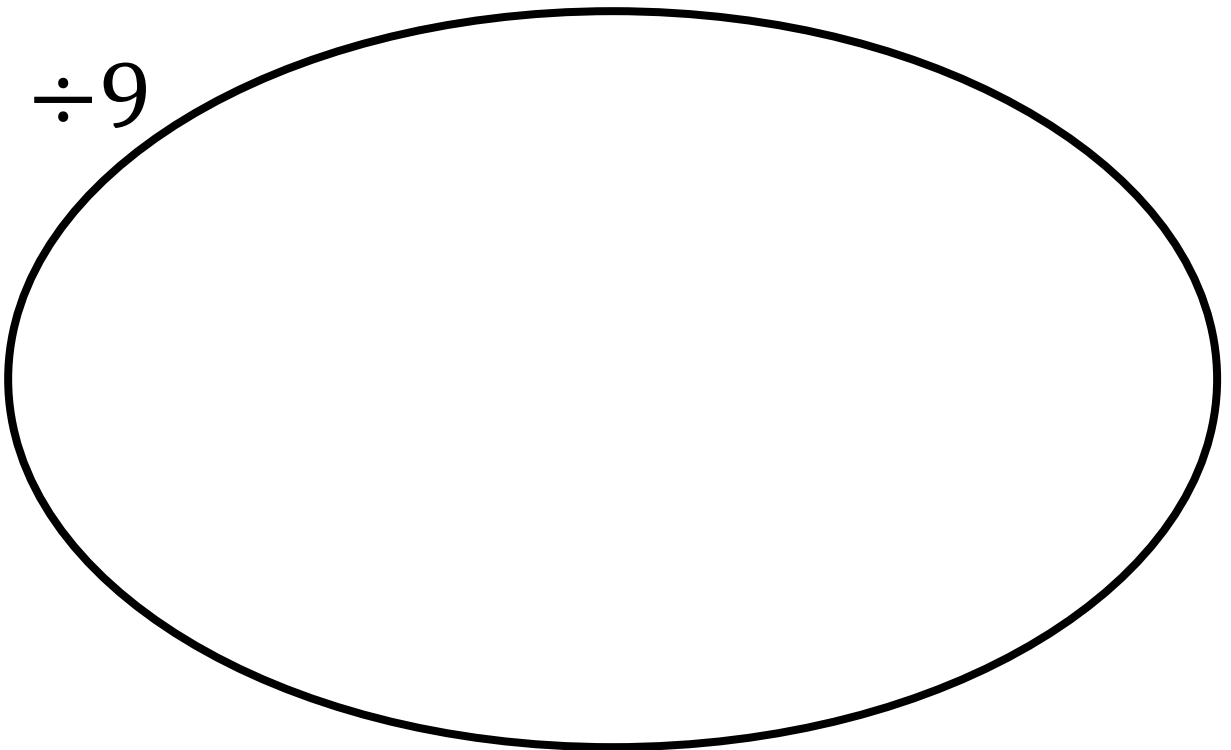
9

When the sum of the digits is a multiple of nine.

Examples: 81,324; 711 Non-examples: 799; 1074

27; 72; 91; 92; 100; 150; 165; 169; 204; 225; 281; 286; 303; 318;
348; 363; 382; 392; 415; 468; 477; 7,168; 9,042; 35,120

$\div 9$



Rules of Divisibility

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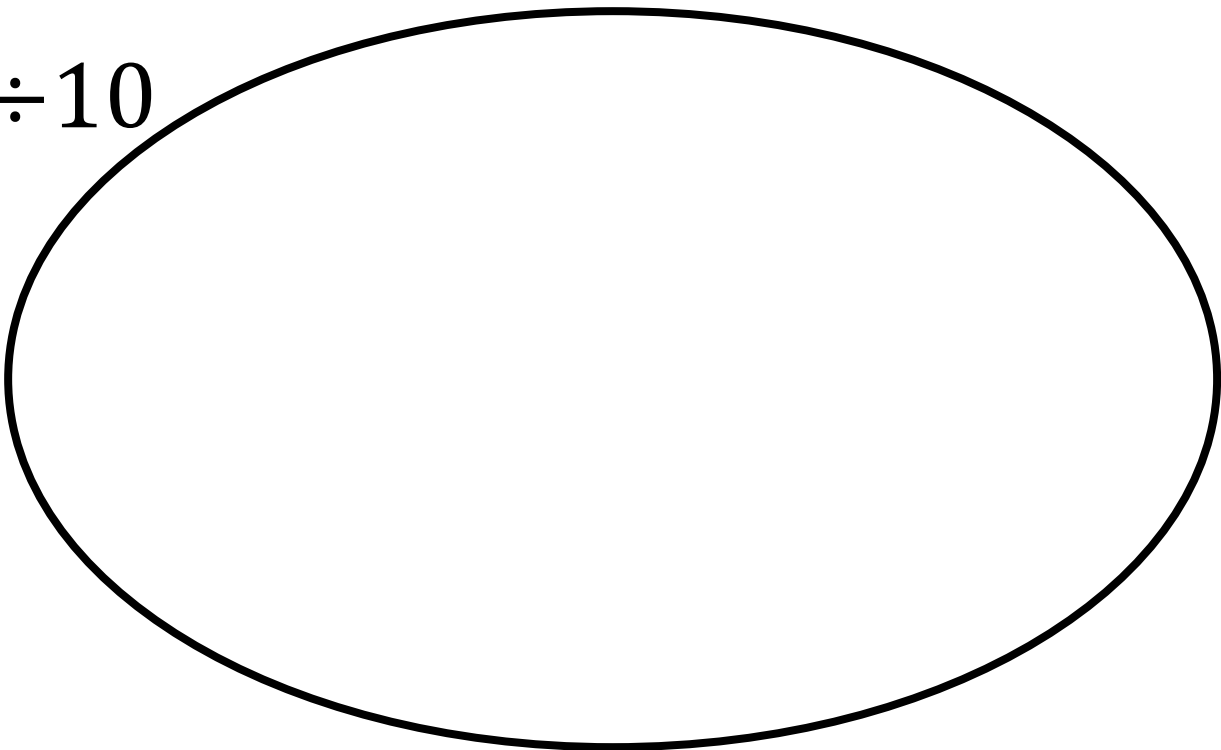
10

When the ones digit is a zero.

Examples: 110; 12,970 Non-examples: 8,675,309; 314

27; 72; 91; 92; 100; 150; 165; 169; 204; 225; 281; 286; 303; 318;
348; 363; 382; 392; 415; 468; 477; 7,168; 9,042; 35,120

$\div 10$



Rules of Divisibility

A number is divisible by...

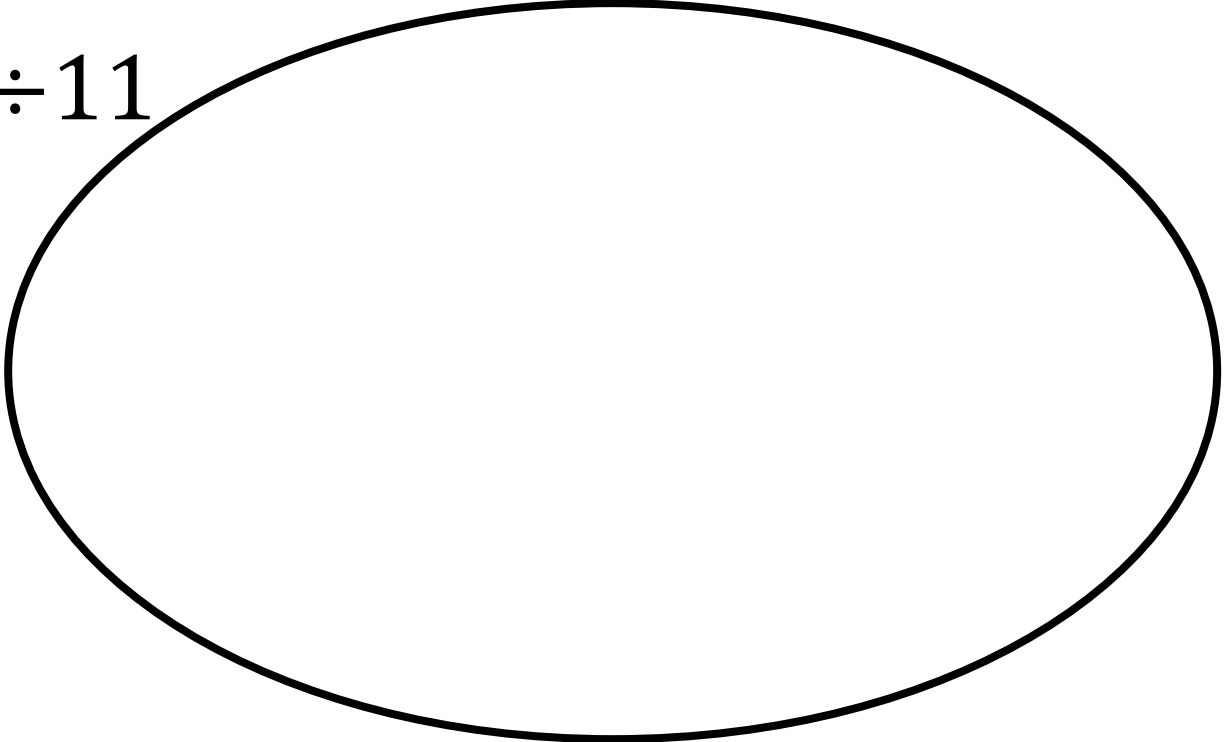
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100; 150; 165;
169; 204; 225;
281; 286; 303;
318; 348; 363;
382; 392; 415;
468; 477;
7,168; 9,042;
35,120

$\div 11$



Rules of Divisibility

A number is divisible by...

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When the number is divisible by both 3 and 4.

Examples: 11,316; 120 Non-examples: 18; 54; 11,322

27; 72; 91; 92; 100; 150; 165; 169; 204; 225; 281; 286; 303; 318;
348; 363; 382; 392; 415; 468; 477; 7,168; 9,042; 35,120

$\div 12$

