

Divisibility Rules

Ways to Check for Divisibility



Dividing By 1

- **All numbers are divisible by 1**



Now You Try

Are these numbers divisible by 1?

- a) 578
- b) 398
- c) 48
- d) 1903
- e) 490

Dividing by 2

- **All even numbers are divisible by 2**
- **Even numbers are numbers that end with either 2, 4, 6, 8, or 0**



Now You Try

Are these numbers divisible by 2?

- a) 458
- b) 1279
- c) 759
- d) 555
- e) 1050

Dividing by 3

- **Add up the digits of the number**
- **If that number is divisible by 3, then the original number is**
- **If your sum is still a big number, continue to add the digits**



Dividing by 3

- For example, take the number 7 3 8

✱ Add up the digits of the number

$$7 + 3 + 8 = 18$$

✱ If that number is divisible by 3, then the original number is

Is 18 divisible by 3?

✱ If your sum is still a big number, continue to add the digits

$$1 + 8 = 9$$

Is 9 divisible by 3?



Now You Try

Are these numbers divisible by 3?

- a) 639
- b) 56
- c) 86
- d) 360
- e) 468

Dividing by 4

- **If the last 2 digits together are divisible by 4**



Now You Try

Are these numbers divisible by 4?

- a) 584
- b) 261
- c) 56
- d) 920
- e) 767

Dividing by 5

- **If the number ends in 5 or 0**



Now You Try

Are these numbers divisible by 5?

- a) 554
- b) 6890
- c) 345
- d) 902
- e) 845

Dividing by 6

- **If the number is divisible by 2, and . . .**
 - **If the number is divisible by 3**



Now You Try

Are these numbers divisible by 6?

- a) 897
- b) 258
- c) 630
- d) 345
- e) 84

Dividing by 7

Now You Try

Are these numbers divisible by 7?

- a) 578
- b) 398
- c) 48
- d) 1903
- e) 490

Dividing by 8

- **If the last three digits are divisible by 8**
- **If the number is divisible by 2,**
 - **then by 2 again, and then by 2 again**



So what type of number does it have to be?



Now You Try

Are these numbers divisible by 8?

- a) 568
- b) 396
- c) 48
- d) 1903
- e) 490

Dividing by 9

- **Similar to dividing by 3**
 - **Add up digits**
- **If that number is divisible by 9 then your number is divisible by 9**

Dividing by 9

- For example, take the number **924,561**

- ✱ Add up the digits of the number

$$9 + 2 + 4 + 5 + 6 + 1 = 27$$

- ✱ If that number is divisible by 3, then the original number is

Is 27 divisible by 9?

- ✱ If your sum is still a big number, continue to add the digits

$$2 + 7 = 9$$

Is 9 divisible by 9?



Now You Try

Are these numbers divisible by 9?

- a) 578
- b) 398
- c) 48
- d) 1903
- e) 490

Dividing by 10

- **If the number ends with a 0**



Now You Try

Are these numbers divisible by 10?

- a) 578
- b) 398
- c) 48
- d) 1903
- e) 490

Dividing by 11

Now You Try

Are these numbers divisible by 11?

- a) 578
- b) 398
- c) 48
- d) 1903
- e) 490

REVIEW

- **Divisible by 1**
- **Divisible by 2**
- **Divisible by 3**
- **Divisible by 4**
- **Divisible by 5**
- **Divisible by 6**
- **Divisible by 6**
- **Divisible by 8**
- **Divisible by 9**
- **Divisible by 10**
- **Divisible by 11**



Assignment

Tell what each number is divisible by, either 2, 3, 4, 5, 6, 7, 8, 9, 10, or 11

1) 186

2) 85

3) 69

4) 298

5) 747

6) 952

7) 3650

8) 2738

9) 1132

10) 5084

11) 3870

12) 7896

13) 69095

14) 4892

15) 3487



That's all Folks!

