

Rules of Divisibility

Stan wants to give his friends an equal number of marbles. Among how many friends can he equally divide his marbles: 2, 3, 5, 9, or 10?

We want to know among how many friends—2, 3, 5, 9, or 10—Stan can equally divide ____ marbles.

We can use rules to find out which numbers can be equally divided into 30 with no remainder.



Number of Friends	Rule	Is 30 Divisible?
2	A number is divisible by 2 if the last digit is even—0, 2, 4, 6, or 8.	30 is divisible by 2 because the ones digit is ____ and ____ is ____.
3	A number is divisible by 3 if the sum of its digits is divisible by 3.	30 is divisible by 3 because $3 + 0 =$ ____ and ____ is divisible by 3.
5	A number is divisible by 5 if the ones digit is 0 or 5.	30 is divisible by 5 because the ones digit is ____.
9	A number is divisible by 9 if the sum of its digits is divisible by 9.	30 is not divisible by 9 because $3 + 0 =$ ____ and ____ is not divisible by 9.
10	A number is divisible by 10 if the ones digit is 0.	30 is divisible by 10 because the ones digit is ____.

Stan can equally divide 30 marbles among ____, ____, ____, or ____ friends.

Getting Started

List the numbers, 2, 3, 5, 9, or 10, that the given number is divisible by.

1. 27

2. 42

3. 80

4. 35

5. 20

If the following number divisible by 3,
write yes.

1. 816 _____
2. 864 _____
3. 85 _____
4. 198 _____
5. 254 _____
6. 525 _____
7. 120 _____
8. 933 _____
9. 985 _____
10. 153 _____

If the following number divisible by 2,
write yes.

1. 52 _____
2. 78 _____
3. 4545 _____
4. 40 _____
5. 90 _____
6. 2282 _____
7. 477 _____
8. 9016 _____
9. 6100 _____
10. 624 _____

If the following number divisible
by 5, write yes.

11. 25 _____
12. 6020 _____
13. 3280 _____
14. 1657 _____
15. 980 _____
16. 895 _____
17. 469 _____
18. 902 _____
19. 815 _____
20. 640 _____