

PALINDROMES

A number that reads the same both forward and backward is called a palindrome. For example, 1221 and 35653 are palindromes.

1. What numbers can you think of that are palindromes?

Most numbers can be turned into palindromes by the “reverse and add” method. Start with any number. Add the number obtained by reversing the digits, and continue this process until a palindrome occurs.

2. Find the palindrome for these numbers:

- a) 23
- b) 149
- c) 158

What did you notice?

3. Figure how many steps it takes to change each of the following into a palindrome.

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|---------|---------|---------|----------|
| (a) 449 | (b) 918 | (c) 364 | (d) 1824 |
| (e) 97 | (f) 28 | (g) 87 | (h) 59 |

4. 1991 is a palindromic year. How many palindromic years have there been since your favorite person in history was born?
5. The time on a digital clock changes every minute.
 - a) How many minutes are there in 12 hours?
 - b) In a 12-hour period, how many of the shown times are palindromes?
 - c) What percentage of the time in a 12-hour period does a digital clock display palindromes?
6. Words and sentences can also be palindromes. What words can you think of (or find) that are palindromes? What about a sentence that reads the same forward and backward!

[Adapted from: Connections: Linking Manipulatives to Mathematics, Grade 4 Rainbow Multiples, Creative Publications, Inc.]