

Decimal number

Decimal with optional sign and fractional part.

```
^-?\d+(\.\d+)?
```

Token-by-token breakdown

Token	Meaning
^	start of string (or line in multiline mode)
-?	optional (zero or one): the literal "-"
\d+	one or more: digit (0–9)
(	start of a capturing group
\.	literal "."
\d+	one or more: digit (0–9)
)?	end of group, optional (zero or one)
\$	end of string (or line in multiline mode)

Quick usage in 7 languages

JavaScript `const re = /^-?\d+(\.\d+)?$/;
re.test(value);`

Python `import re
re.match(r"^-?\d+(\.\d+)?$", value)`

Java `Pattern.compile("^-?\d+(\\.\\d+)?$").matcher(value).matches();`

C# / .NET `Regex.IsMatch(value, @"^-?\d+(\.\d+)?$");`

Go `regexp.MustCompile(`^-?\d+(\.\d+)?$`).MatchString(value)`

Ruby `/^-?\d+(\.\d+)?$/ .match?(value)`

PHP `preg_match('~^-?\d+(\.\d+)?$~', $value);`

Common pitfalls

- **Anchored to the whole string.** This pattern uses ^ and \$, so it requires the entire input to match. To find it inside a longer text, drop the anchors and use the global (g) flag.
- **Escape it correctly per language.** In Java and JavaScript strings each backslash must be doubled (\\d); in Python, Go, and C# use raw/verbatim strings so the backslashes survive.
- **Validate beyond format.** Matching the format doesn't guarantee the value is real. Confirm the decimal number against a source of truth (database, API, or checksum) where it matters.