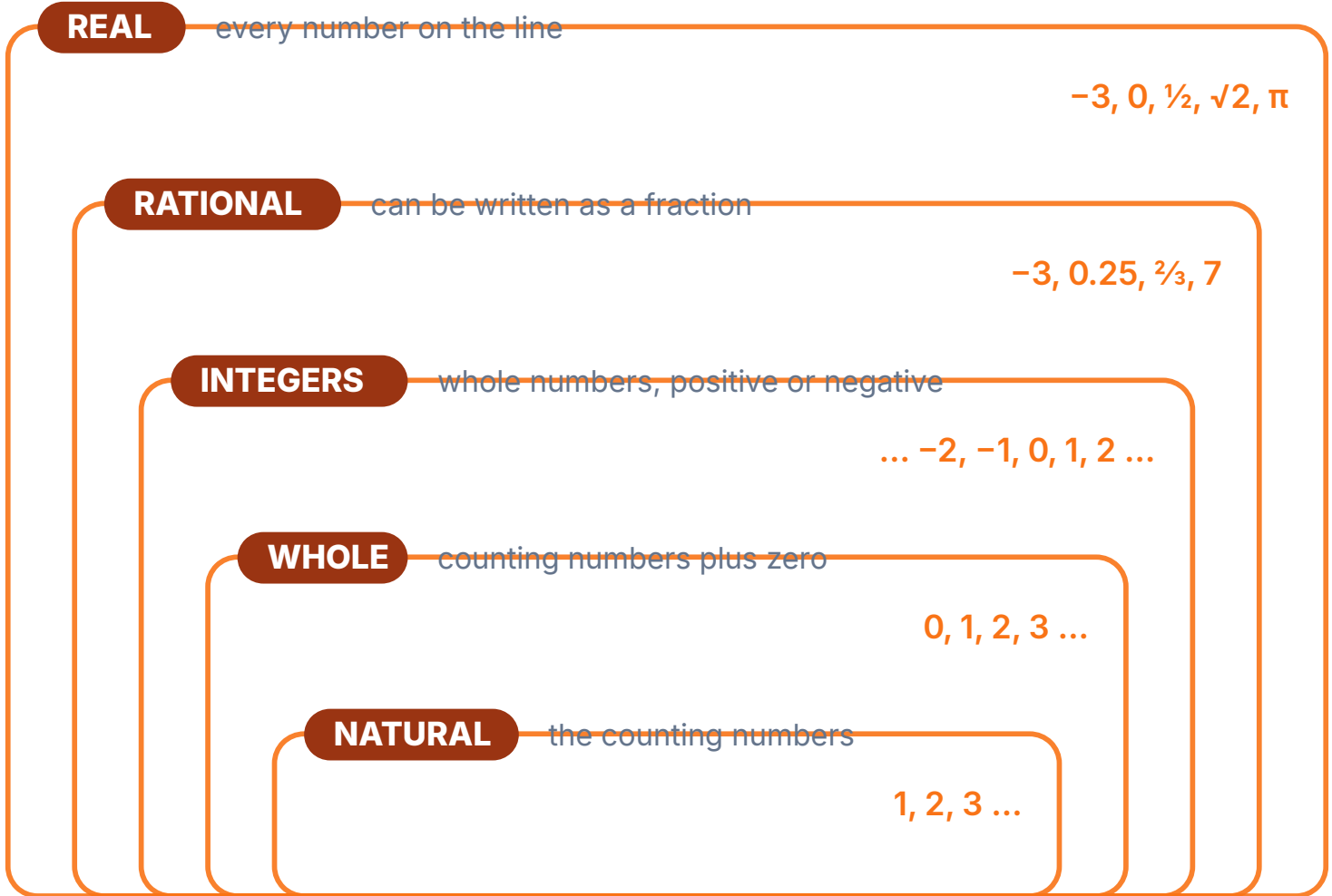


The Real Number System

8th Grade

Naturals inside integers inside rationals inside reals, with irrationals beside them.



IRRATIONAL — real, but never a fraction

$$\sqrt{2} = 1.41421356... \quad \pi = 3.14159265... \quad e = 2.71828...$$

Decimal never ends and never repeats. Any non-perfect square root is irrational.
0.333... repeats, so it IS rational: it equals $\frac{1}{3}$.



π sits just past 3 — every real number has exactly one home on this line.