



## Approximating Irrational Numbers

### Today's Standard

8.NS.A2 - Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g.,  $\pi^2$ ). For example, by truncating the decimal expansion of  $\sqrt{2}$ , show that  $\sqrt{2}$  is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.

Cues	Notes
Rational Approximations	Rational approximations help in comparing sizes of irrational numbers.
Irrational Numbers	Irrational numbers cannot be exactly represented as fractions.
Number Line	Locate irrational numbers approximately on a number line.
Decimal Expansion	Decimal expansions of irrational numbers are non-repeating and non-terminating.
Estimations	Estimations improve with more decimal places but are never exact.

### Summary

Understanding rational approximations of irrational numbers helps in comparing their sizes, locating them on a number line, and estimating values.