

## Grade 8: Smarter Balanced Assessment Item Illustrating 8.NS.A.1

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**Domain:** Number System

**Cluster and/or Standard:** 8.NS.A.1 - Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.

**Rigor/Complexity<sup>1</sup>:** Conceptual Level 1

**Calculator Needed:** No

**Example Stem:** Determine for each number whether it is a rational or irrational number.

Number	Rational	Irrational
$\frac{4}{7}$		
$\sqrt{30}$		
$\frac{21}{\sqrt{4}}$		
$\pi$		
-27		

**Answer Key:** Rational, Irrational, Rational, Irrational, Rational

**Elaboration on Alignment:**

This item is intended to assess one of the most fundamental pieces of 8.NS.A – knowing that there are numbers that are not rational and they are called irrational.

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<sup>1</sup> [A Framework to Evaluate Cognitive Complexity in Mathematics Assessments](#)