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

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[1]: Conceptual Level 1

Calculator Needed: No

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

Number	Rational	Irrational
$\dfrac{4}{7}$		
$\sqrt{30}$		
$\dfrac{21}{\sqrt{4}}$		
π		
-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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[1] A Framework to Evaluate Cognitive Complexity in Mathematics Assessments