

## Grade 8: Smarter Balanced Assessment Item Illustrating 8.G.C.9

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Domain: Geometry

Cluster and/or Standard: 8.G.C.9 - Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

Rigor/Complexity<sup>1</sup>: Application Level 2, Procedural Skill and Fluency Level 2

Calculator: Yes

A right cylindrical tank has a height of 10 feet and a radius of 4 feet. Jane fills this tank with water at a rate of 8 cubic feet per minute. Using this rate, determine the number of minutes it will take Jane to completely fill the tank.

Write your answer, rounded to the nearest minute, in the box below:

Answer:

Answer Key: 63

### Elaboration on Alignment:

This item draws on students' work of the RP domain from prior grades and integrates this with their current work in grade 8 Geometry.

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