Question ID 0f1d42fd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	Hard

ID: 0f1d42fd

The density of a certain type of wood is 353 kilograms per cubic meter. A sample of this type of wood is in the shape of a cube and has a mass of 345 kilograms. To the nearest hundredth of a meter, what is the length of one edge of this sample?

A. 0.98

B. 0.99

C. 1.01

D. 1.02

Question ID 7989c1bb

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	Hard

ID: 7989c1bb

A certain town has an area of 4.36 square miles. What is the area, in square yards, of this town?
$(1 \text{ mile} = 1{,}760 \text{ yards})$

A. 404

B. $7{,}674$

C. $710{,}459$

D. $13{,}505{,}536$

Question ID ea2c91c1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	Hard

ID: ea2c91c1

For an electric field passing through a flat surface perpendicular to it, the electric flux of the electric field through the surface is the product of the electric field's strength and the area of the surface. A certain flat surface consists of two adjacent squares, where the side length, in meters, of the larger square is 3 times the side length, in meters, of the smaller square. An electric field with strength 29.00 volts per meter passes uniformly through this surface, which is perpendicular to the electric field. If the total electric flux of the electric field through this surface is $4{,}640$ $\text{volts} \cdot \text{meters}$, what is the electric flux, in $\text{volts} \cdot \text{meters}$, of the electric field through the larger square?

Question ID 424cddc9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	Hard

ID: 424cddc9

To study the moisture content in a group of trees, samples from the trunk of each tree were taken from 25 trees and cut in the shape of a cube. The length of the edge of one of these cubes is 2.00 centimeters. If this cube has a mass of 2.56 grams, what is the density of this cube, in grams per cubic centimeter?

Question ID 6963dfb3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	Hard

ID: 6963dfb3

A landscaper uses a hose that puts $88x$ ounces of water in a bucket in $5y$ minutes. Which expression represents the number of ounces of water the hose puts in the bucket in $9y$ minutes at this rate?

A. $\frac{9x}{440}$

B. $\frac{440x}{9}$

C. $\frac{5x}{792}$

D. $\frac{792x}{5}$

Question ID c6ad6232

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	Hard

ID: c6ad6232

Objects R and S each travel at a constant speed. The speed of object R is half the speed of object S. Object R travels a distance of $4x$ inches in y seconds. Which expression represents the time, in seconds, it takes object S to travel a distance of $24x$ inches?

A. $12y$

B. $3y$

C. $16y$

D. $6y$

Question ID 00048e15

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	Hard

ID: 00048e15

If $\frac{4a}{b} = 6.7$ and $\frac{a}{bn} = 26.8$, what is the value of n?

Question ID 335fc7f5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	Hard

ID: 335fc7f5

A certain park has an area of $11{,}863{,}808$ square yards. What is the area, in square miles, of this park?
$(1 \text{ mile} = 1{,}760 \text{ yards})$

A. 1.96

B. 3.83

C. $3{,}444.39$

D. $6{,}740.8$

Question ID 03c75a33

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	Hard

ID: 03c75a33

The area of a rectangular region is increasing at a rate of 250 square feet per hour. Which of the following is closest to this rate in square meters per minute? $(\text{Use } 1 \text{ meter} = 3.28 \text{ feet.})$

A. 0.39

B. 1.27

C. 13.67

D. 23.24

Question ID 56effdcf

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	Hard

ID: 56effdcf

The speed of a vehicle is increasing at a rate of 7.3 meters per second squared. What is this rate, in **miles per minute squared**, rounded to the nearest tenth? $(\text{Use } 1 \text{ mile} = 1{,}609 \text{ meters.})$

A. 0.3

B. 16.3

C. 195.8

D. 220.4

Question ID 68c9e1f7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	Hard

ID: 68c9e1f7

A sample of oak has a density of 807 kilograms per cubic meter. The sample is in the shape of a cube, where each edge has a length of 0.90 meters. To the nearest whole number, what is the mass, in kilograms, of this sample?

A. 588

B. 726

C. 897

D. $1{,}107$

Question ID 0035c393

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	Hard

ID: 0035c393

The density of a certain solid substance is 813 kilograms per cubic meter. A sample of this substance is in the shape of a cube, where each edge has a length of 0.60 meters. To the nearest whole number, what is the mass, in kilograms, of this sample?

A. 176

B. 488

C. $1{,}355$

D. $3{,}764$

Question ID 63b7be29

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	Hard

ID: 63b7be29

To study fluctuations in composition, samples of pumice were taken from 29 locations and cut in the shape of a cube. The length of the edge of one of these cubes is 3.000 centimeters. This cube has a density of 0.230 grams per cubic centimeter. What is the mass of this cube, in grams?