

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 mile = 1,760 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 volts · meters**, what is the electric flux, in **volts · meters**, of the electric field through the larger square?

Question ID 424cddc9

Assessment	Test	Domain	Skill	Difficulty
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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 mile = 1,760 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? (Use **1 meter = 3.28 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? (Use **1 mile = 1,609 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?