

Question ID 410fb541

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div><div></div><div></div><div></div></div>

ID: 410fb541

For a certain rectangular region, the ratio of its length to its width is **35** to **10**. If the width of the rectangular region increases by **7** units, how must the length change to maintain this ratio?

- A. It must decrease by **24.5** units.
- B. It must increase by **24.5** units.
- C. It must decrease by **7** units.
- D. It must increase by **7** units.

Question ID e041089e

Assessment	Test	Domain	Skill	Difficulty
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ID: e041089e

One side of a flat board has an area of **874** square inches. If a pressure of **19** pounds per square inch of area is exerted on this side of the board, what is the total force, in pounds, exerted on this side of the board?

Question ID 0b5424c0

Assessment	Test	Domain	Skill	Difficulty
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ID: 0b5424c0

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?

Question ID 859d9971

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ID: 859d9971

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 5deda8b0

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ID: 5deda8b0

For the values j and k , the ratio of j to k is 11 to 12. If j is multiplied by 17, what is k multiplied by in order to maintain the same ratio?

Question ID 338eaa47

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ID: 338eaa47

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 12ee6d83

Assessment	Test	Domain	Skill	Difficulty
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ID: 12ee6d83

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 66db54cd

Assessment	Test	Domain	Skill	Difficulty
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ID: 66db54cd

How many tablespoons are equivalent to **14** teaspoons? (**3 teaspoons = 1 tablespoon**)

Question ID 48a06fda

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ID: 48a06fda

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 ~~4~~ x inches in y seconds. Which expression represents the time, in seconds, it takes object S to travel a distance of ~~24~~ x inches?

- A. ~~12~~ y
- B. ~~3~~ y
- C. ~~16~~ y
- D. ~~6~~ y

Question ID 0563ce88

Assessment	Test	Domain	Skill	Difficulty
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ID: 0563ce88

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

Question ID b1f33dbf

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ID: b1f33dbf

One of a planet's moons orbits the planet every **252** days. A second moon orbits the planet every **287** days. How many more days does it take the second moon to orbit the planet **29** times than it takes the first moon to orbit the planet **29** times?

Question ID 00f86169

Assessment	Test	Domain	Skill	Difficulty
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ID: 00f86169

At a particular track meet, the ratio of coaches to athletes is **1** to **26**. If there are x coaches at the track meet, which of the following expressions represents the number of athletes at the track meet?

- A. $\frac{x}{26}$
- B. $26x$
- C. $x + 26$
- D. $\frac{26}{x}$

Question ID 3a8ffcf3

Assessment	Test	Domain	Skill	Difficulty
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ID: 3a8ffcf3

If $\frac{x}{y} = 4$ and $\frac{24x}{ny} = 4$, what is the value of n ?

Question ID 177bca79

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ID: 177bca79

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 cf16b539

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ID: cf16b539

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?