Question ID d28c29e1

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

ID: d28c29e1

2.1

The International Space Station orbits Earth at an average speed of 4.76 miles per second. What is the space station's average speed in miles per hour?

A. 285.6

B. 571.2

C. 856.8

D. 17,136.0

Question ID b4912cc5

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

ID: b4912cc5

2.2

The population density of Iceland, in people per square kilometer of land area, increased from 2.5 in 1990 to 3.3 in 2014. During this time period, the land area of Iceland was 100,250 square kilometers. By how many people did Iceland's population increase from 1990 to 2014?

A. 330,825

B. 132,330

C. 125,312

D. 80,200

Question ID 8e528129

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

ID: 8e528129

2.3

Pure beeswax has a density of 0.555 ounce per cubic inch. An online company sells pure beeswax at a price of $8.00 per ounce. What is the selling price, in dollars per cubic inch, for pure beeswax purchased from this company?

Question ID fea831fc

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

ID: fea831fc

2.4

On April 18, 1775, Paul Revere set off on his midnight ride from Charlestown to Lexington. If he had ridden straight to Lexington without stopping, he would have traveled 11 miles in 26 minutes. In such a ride, what would the average speed of his horse have been, to the nearest tenth of a mile per hour?

Question ID 181cc4d6

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

ID: 181cc4d6

2.5

Rectangle *A* has length 15 and width *w*. Rectangle *B* has length 20 and the same length-to-width ratio as rectangle *A*. What is the width of rectangle *B* in terms of *w* ?

A. $\frac{4}{3}w$

B. $w+5$

C. $\frac{3}{4}w$

D. $w-5$

Question ID 445dd032

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

ID: 445dd032

2.6

Tanya earns $13.50 per hour at her part-time job. When she works z hours, she earns $13.50z$ dollars. Which of the following expressions gives the amount, in dollars, Tanya will earn if she works $3z$ hours?

A. $3(13.50z)$

B. $3+13.50z$

C. $3z+13.50z$

D. $13.50(z+3)$

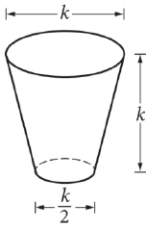
Question ID 939c46d1

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

ID: 939c46d1

2.7

Volume = $\frac{7\pi k^3}{48}$



The glass pictured above can hold a maximum volume of 473 cubic centimeters, which is approximately 16 fluid ounces. Jenny has a pitcher that contains 1 gallon of water. How many times could Jenny completely fill the glass with 1 gallon of water? (1 gallon = 128 fluid ounces)

A. 16

B. 8

C. 4

D. 3

Question ID e21d10a7

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

ID: e21d10a7

2.8

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 8917ce38

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

ID: 8917ce38

2.9

Which of the following speeds is equivalent to 90 kilometers per hour? (1 kilometer = 1,000 meters)

A. 25 meters per second

B. 32 meters per second

C. 250 meters per second

D. 324 meters per second

Question ID ec787383

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

ID: ec787383

2.10

A distance of 61 furlongs is equivalent to how many feet? $(1\ \text{furlong} = 220\ \text{yards and}\ 1\ \text{yard} = 3\ \text{feet})$

Question ID 7e6c745f

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

ID: 7e6c745f

2.11

Food	Protein	Cost
1 large egg	6 grams	$0.36
1 cup of milk	8 grams	$0.24

The table above shows the amount of protein in two foods and the cost of each food. Based on the table, what is the ratio of the cost per gram of protein in a large egg to the cost per gram of protein in a cup of milk?

A. 1 : 2

B. 2 : 3

C. 3 : 4

D. 2 : 1

Question ID 873d2838

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

ID: 873d2838

2.12

The population density of Cedar County is 230 people per square mile. The county has a population of $85{,}100$ people. What is the area, in square miles, of Cedar County?

Question ID 73ddfdac

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

ID: 73ddfdac

2.13

A distance of 112 furlongs is equivalent to how many feet? $(1\ \text{furlong} = 220\ \text{yards and}\ 1\ \text{yard} = 3\ \text{feet})$

Question ID 61b87506

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

ID: 61b87506

2.14

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 eb672707

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

ID: eb672707

2.15

How many tablespoons are equivalent to 14 teaspoons? $(3\ \text{teaspoons} = 1\ \text{tablespoon})$

Question ID cb4894f9

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

ID: cb4894f9

2.16

A triathlon is a multisport race consisting of three different legs. A triathlon participant completed the cycling leg with an average speed of 19.700 miles per hour. What was the average speed, in yards per hour, of the participant during the cycling leg? $(1 \text{ mile} = 1{,}760 \text{ yards})$

Question ID 1180401d

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

ID: 1180401d

2.17

The total area of a coastal city is 92.1 square miles, of which 11.3 square miles is water. If the city had a population of 621,000 people in the year 2010, which of the following is closest to the population density, in people per square mile of land area, of the city at that time?

A. 6,740

B. 7,690

C. 55,000

D. 76,000

Question ID f6cbb04a

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

ID: f6cbb04a

2.18

$d = 55t$

The equation above can be used to calculate the distance d, in miles, traveled by a car moving at a speed of 55 miles per hour over a period of t hours. For any positive constant k, the distance the car would have traveled after $9k$ hours is how many times the distance the car would have traveled after $3k$ hours?

A. 3

B. 6

C. $3k$

D. $6k$

Question ID 89c39d77

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

ID: 89c39d77

2.19

A competition consisted of four different events. One participant completed the first event with an average speed of 20.300 miles per hour. What was this average speed, in yards per hour? $(1 \text{ mile} = 1{,}760 \text{ yards})$

Question ID 3310c2ab

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

ID: 3310c2ab

2.20

How many fluid ounces are equivalent to 76 quarts? $(8 \text{ fluid ounces} = 1 \text{ cup and } 4 \text{ cups} = 1 \text{ quart})$

Question ID 674a4084

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

ID: 674a4084

2.21

An insect moves at a speed of $\frac{3}{20}$ feet per second. What is this speed, in yards per second? $(3 \text{ feet} = 1 \text{ yard})$

A. $\frac{1}{20}$

B. $\frac{9}{20}$

C. 6

D. 20

Question ID 825b7490

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

ID: 825b7490

2.22

The ratio 140 to m is equivalent to the ratio 4 to 28. What is the value of m?