#1 ID: d28c29e1

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

#2 ID: b4912cc5

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

#3 ID: 825b7490

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

#4 ID: 3310c2ab

How many fluid ounces are equivalent to 76 quarts?

$(8 \text{ fluid ounces} = 1 \text{ cup and } 4 \text{ cups} = 1 \text{ quart})$

#5 ID: 3726e079

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

#6 ID: 8e528129

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?

#7 ID: c3d78831

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) $\frac{26}{x}$

#8 ID: fea831fc

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?

#9 ID: 181cc4d6

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) w

B) $w + 5$

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

D) $w - 5$

#10 ID: 1b403590

An object has a mass of 168 grams and a volume of 24 cubic centimeters. What is the density, in grams per cubic centimeter, of the object?

A) 7

B) 144

C) 192

D) $4{,}032$

#11 ID: 445dd032

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) $3(13.50z)$

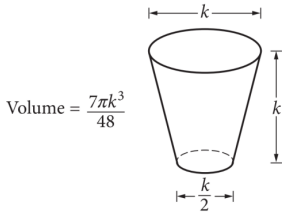
B) $3 + 13.50z$

C) $3z + 13.50z$

D) $13.50(z + 3)$

#12

ID: 939c46d1



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? $1 = 128$

A) 16

B) 8

C) 4

D) 3

#13

ID: e21d10a7

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?

#14

ID: 8917ce38

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

#15

ID: ec787383

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

#16

ID: 7e6c745f

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

#17 ID: 873d2838

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?

#18 ID: 73ddfdac

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

#19 ID: 61b87506

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?

#20 ID: eb672707

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

#21 ID: cb4894f9

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 mile = 1,760 yards)

#22 ID: 1180401d

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

#23

ID: f6cbb04a

$d = 55t$

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)

D) $6k$

#24

ID: 96c3e32d

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?

#25

ID: 89c39d77

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 mile = 1,760 yards)

#26

ID: 674a4084

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

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

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

C) 6

D) 20

#27

ID: 51c9d65f

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.