Question ID bbfa4707

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

ID: bbfa4707

A wind turbine completes 900 revolutions in 50 minutes. At this rate, how many revolutions per minute does this turbine complete?

A. 18

B. 850

C. 950

D. $1{,}400$

ID: bbfa4707 Answer

Correct Answer: A

Rationale

Choice A is correct. Dividing the number of revolutions by the number of minutes gives the number of revolutions the turbine completes per minute. It's given that the wind turbine completes 900 revolutions in 50 minutes. Therefore, at this rate, this turbine completes $\frac{900}{50}$, or 18, revolutions per minute.

Choice B is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 5216125e

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

ID: 5216125e

A customer spent $\$27$ to purchase oranges at $\$3$ per pound. How many pounds of oranges did the customer purchase?

ID: 5216125e Answer

Correct Answer: 9

Rationale

The correct answer is 9. It's given that the customer spent $\$27$ to purchase oranges at $\$3$ per pound. Therefore, the number of pounds of oranges the customer purchased is $\$27\left(\frac{1 \text{ pound}}{\$3}\right)$, or 9 pounds.

Question Difficulty: Easy

Question ID e25aee5f

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

ID: e25aee5f

A mechanical device in a workshop produces items at a constant rate of 60 items per hour. At this rate, how many items will the mechanical device produce in 3 hours?

ID: e25aee5f Answer

Correct Answer: 180

Rationale

The correct answer is 180. It's given that a mechanical device produces items at a constant rate of 60 items per hour. This rate can be written as $\frac{60 \text{ items}}{1 \text{ hour}}$. Let x represent the number of items the mechanical device will produce in 3 hours at the given rate. It follows that $\frac{60 \text{ items}}{1 \text{ hour}} = \frac{x \text{ items}}{3 \text{ hours}}$, which can be written as $\frac{60}{1} = \frac{x}{3}$, or $60 = \frac{x}{3}$. Multiplying each side of this equation by 3 yields $180 = x$. Therefore, at the given rate, the mechanical device will produce 180 items in 3 hours.

Alternate approach: It's given that a mechanical device produces items at a constant rate of 60 items per hour. At this rate, the mechanical device will produce $\left(\frac{60 \text{ items}}{1 \text{ hour}}\right)(3 \text{ hours})$, or 180 items in 3 hours.

Question Difficulty: Easy

Question ID 3fb7ca66

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

ID: 3fb7ca66

A giant armadillo has a mass of 39 kilograms. What is the giant armadillo's mass in **grams**?
$(1\ \text{kilogram} = 1{,}000\ \text{grams})$

ID: 3fb7ca66 Answer

Correct Answer: 39000

Rationale

The correct answer is $39{,}000$. It's given that the giant armadillo has a mass of 39 kilograms. Since 1 kilogram is equal to $1{,}000$ grams, 39 kilograms is equal to $39\ \text{kilograms}\left(\frac{1{,}000\ \text{grams}}{1\ \text{kilogram}}\right)$, or $39{,}000$ grams. Therefore, the giant armadillo's mass, in grams, is $39{,}000$.

Question Difficulty: Easy

Question ID 25f9c72c

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

ID: 25f9c72c

A kangaroo has a mass of 28 kilograms. What is the kangaroo's mass, in grams?
$(1 \text{ kilogram} = 1{,}000 \text{ grams})$

A. $28{,}000$

B. $1{,}028$

C. 972

D. 784

ID: 25f9c72c Answer

Correct Answer: A

Rationale

Choice A is correct. It's given that a kangaroo has a mass of 28 kilograms and that 1 kilogram is equal to $1{,}000$ grams. Therefore, the kangaroo's mass, in grams, is $28 \text{ kilograms}\left(\frac{1{,}000 \text{ grams}}{1 \text{ kilogram}}\right)$, which is equivalent to $28{,}000$ grams.

Choice B is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 95333d9b

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

ID: 95333d9b

A fish swam a distance of $5{,}104$ yards. How far did the fish swim, in miles? $(1 \text{ mile} = 1{,}760 \text{ yards})$

A. 0.3

B. 2.9

C. $3{,}344$

D. $6{,}864$

ID: 95333d9b Answer

Correct Answer: B

Rationale

Choice B is correct. It's given that the fish swam $5{,}104$ yards and that 1 mile is equal to $1{,}760$ yards. Therefore, the fish swam $5{,}104 \text{ yards}\left(\frac{1 \text{ mile}}{1{,}760 \text{ yards}}\right)$, which is equivalent to $\frac{5{,}104}{1{,}760} \text{ miles}$, or 2.9 miles.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID fff446be

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

ID: fff446be

A participant in a bicycle race completes the race with an average speed of $24{,}816$ yards per hour. What is this average speed, in miles per hour? $(1 \text{ mile} = 1{,}760 \text{ yards})$

ID: fff446be Answer

Correct Answer: 14.1

Rationale

The correct answer is 14.1. It's given that a participant completes the bicycle race with an average speed of $24{,}816$ yards per hour and $1 \text{ mile} = 1{,}760 \text{ yards}$. It follows that this average speed is equivalent to $\left(\frac{24{,}816 \text{ yards}}{1 \text{ hour}}\right)\left(\frac{1 \text{ mile}}{1{,}760 \text{ yards}}\right)$, which yields $\frac{14.1 \text{ miles}}{1 \text{ hour}}$, or 14.1 miles per hour.

Question Difficulty: Easy

Question ID cd1afde7

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

ID: cd1afde7

In a box of pens, the ratio of black pens to red pens is 8 to 1. There are 40 black pens in the box. How many red pens are in the box?

A. 5

B. 8

C. 40

D. 320

ID: cd1afde7 Answer

Correct Answer: A

Rationale

Choice A is correct. It's given that the ratio of black pens to red pens is 8 to 1. Therefore, there are $\frac{1}{8}$ as many red pens as black pens in the box. It's also given that there are 40 black pens in the box. Therefore, the number of red pens is $\frac{1}{8}$ of the 40 black pens. Thus, the number of red pens is $40\left(\frac{1}{8}\right)$, or 5.

Choice B is incorrect. This is the number of black pens in the box for every red pen.

Choice C is incorrect. This is the number of black pens in the box.

Choice D is incorrect. This is the number of red pens in the box if the ratio of black pens to red pens is 1 to 8.

Question Difficulty: Easy

Question ID 6aa7e316

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

ID: 6aa7e316

A certain bird species can fly at an average speed of 16 meters per second when in continuous flight. At this rate, how many meters would this bird species fly in 4 seconds?

A. 64

B. 20

C. 16

D. 12

ID: 6aa7e316 Answer

Correct Answer: A

Rationale

Choice A is correct. It's given that a certain bird species can fly at an average speed of 16 meters per second when in continuous flight. At this rate, in 4 seconds this bird species would fly $\left(\frac{16 \text{ meters}}{\text{second}}\right)(4 \text{ seconds})$, or 64 meters.

Choice B is incorrect. This is the value of $16 + 4$, not $16(4)$.

Choice C is incorrect. This is the distance the bird would fly in 1 second, not 4 seconds.

Choice D is incorrect. This is the value of $16 - 4$, not $16(4)$.

Question Difficulty: Easy

Question ID 001a48b4

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

ID: 001a48b4

The number of raccoons in a 131-square-mile area is estimated to be $2{,}358$. What is the estimated population density, in raccoons per square mile, of this area?

A. 18

B. 131

C. 149

D. $2{,}376$

ID: 001a48b4 Answer

Correct Answer: A

Rationale

Choice A is correct. It's given that there are $2{,}358$ raccoons in a 131-square-mile area. The estimated population density, in raccoons per square mile, is the estimated number of raccoons divided by the number of square miles. Therefore, the estimated population density of this area is $\frac{2{,}358 \text{ raccoons}}{131 \text{ square miles}}$, or 18 raccoons per square mile.

Choice B is incorrect. This is the number of square miles in the area, not the estimated number of raccoons per square mile in this area.

Choice C is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 87bb206b

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

ID: 87bb206b

How many yards are equivalent to 77 rods? $(5.5 \text{ yards} = 1 \text{ rod})$

ID: 87bb206b Answer

Correct Answer: 423.5, 847/2

Rationale

The correct answer is 423.5. It's given that $5.5 \text{ yards} = 1 \text{ rod}$. Therefore, 77 rods is equivalent to $(77 \text{ rods})\left(\frac{5.5 \text{ yards}}{1 \text{ rod}}\right)$, or 423.5 yards. Note that 423.5 and 847/2 are examples of ways to enter a correct answer.

Question Difficulty: Easy

Question ID 03d02396

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

ID: 03d02396

A cherry pitting machine pits 12 pounds of cherries in 3 minutes. At this rate, how many minutes does it take the machine to pit 96 pounds of cherries?

A. 8

B. 15

C. 24

D. 36

ID: 03d02396 Answer

Correct Answer: C

Rationale

Choice C is correct. It's given that the cherry pitting machine pits 12 pounds of cherries in 3 minutes. This rate can be written as $\frac{12 \text{ pounds of cherries}}{3 \text{ minutes}}$. If the number of minutes it takes the machine to pit 96 pounds of cherries is represented by x, the value of x can be calculated by solving the equation $\frac{12 \text{ pounds of cherries}}{3 \text{ minutes}} = \frac{96 \text{ pounds of cherries}}{x \text{ minutes}}$, which can be rewritten as $\frac{12}{3} = \frac{96}{x}$, or $4 = \frac{96}{x}$. Multiplying each side of this equation by x yields $4x = 96$. Dividing each side of this equation by 4 yields $x = 24$. Therefore, it takes the machine 24 minutes to pit 96 pounds of cherries.

Choice A is incorrect. This is the number of minutes it takes the machine to pit 32, not 96, pounds of cherries.

Choice B is incorrect. This is the number of minutes it takes the machine to pit 60, not 96, pounds of cherries.

Choice D is incorrect. This is the number of minutes it takes the machine to pit 144, not 96, pounds of cherries.

Question Difficulty: Easy

Question ID 0d810cbe

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

ID: 0d810cbe

How many yards are equivalent to 612 inches? $(1\ \text{yard} = 36\ \text{inches})$

A. 0.059

B. 17

C. 576

D. $22{,}032$

ID: 0d810cbe Answer

Correct Answer: B

Rationale

Choice B is correct. It's given that $1\ \text{yard} = 36\ \text{inches}$. Therefore, 612 inches is equivalent to $612\ \text{inches}\left(\frac{1\ \text{yard}}{36\ \text{inches}}\right)$, which can be rewritten as $\frac{612\ \text{yards}}{36}$, or 17 yards.

Choice A is incorrect. This is the number of yards that are equivalent to 2.124 inches.

Choice C is incorrect. This is the number of yards that are equivalent to $20{,}736$ inches.

Choice D is incorrect. This is the number of yards that are equivalent to $793{,}152$ inches.

Question Difficulty: Easy

Question ID b156d1ac

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

ID: b156d1ac

An object's speed is 64 yards per second. What is the object's speed, in feet per second?
$(1 \text{ yard} = 3 \text{ feet})$

A. 61

B. 67

C. 94

D. 192

ID: b156d1ac Answer

Correct Answer: D

Rationale

Choice D is correct. Since 1 yard is equal to 3 feet, 64 yards is equal to $64 \text{ yards} \left(\frac{3 \text{ feet}}{1 \text{ yard}} \right)$, or 192 feet. It follows that 64 yards per second is equivalent to 192 feet per second. Therefore, the object's speed is 192 feet per second.

Choice A is incorrect. A speed of 61 feet per second is equivalent to $\frac{61}{3}$, not 64, yards per second.

Choice B is incorrect. A speed of 67 feet per second is equivalent to $\frac{67}{3}$, not 64, yards per second.

Choice C is incorrect. A speed of 94 feet per second is equivalent to $\frac{94}{3}$, not 64, yards per second.

Question Difficulty: Easy

Question ID 7f6c266c

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

ID: 7f6c266c

The ratio x to y is equivalent to the ratio 12 to t. When $x = 156$, what is the value of y in terms of t?

A. $13t$

B. $12t$

C. $144t$

D. $168t$

ID: 7f6c266c Answer

Correct Answer: A

Rationale

Choice A is correct. It's given that the ratio x to y is equivalent to the ratio 12 to t. This can be represented by $\frac{x}{y} = \frac{12}{t}$. Substituting 156 for x in this equation yields $\frac{156}{y} = \frac{12}{t}$. This can be rewritten as $12y = 156t$. Dividing both sides of this equation by 12 yields $y = 13t$. Therefore, when $x = 156$, the value of y in terms of t is $13t$.

Choice B is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 28c1d699

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

ID: 28c1d699

A printer produces posters at a constant rate of 42 posters per minute. At what rate, in posters per hour, does the printer produce the posters?

ID: 28c1d699 Answer

Correct Answer: 2520

Rationale

The correct answer is $2{,}520$. There are 60 minutes in one hour. At a rate of 42 posters per minute, the number of posters produced in one hour can be determined by $\left(\frac{42 \text{ posters}}{1 \text{ minute}}\right)\left(\frac{60 \text{ minutes}}{1 \text{ hour}}\right)$, which is $2{,}520$ posters per hour.

Question Difficulty: Easy

Question ID 433a6af1

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

ID: 433a6af1

A special camera is used for underwater ocean research. When the camera is at a depth of 58 fathoms, what is the camera's depth in feet? $(1 \text{ fathom} = 6 \text{ feet})$

ID: 433a6af1 Answer

Correct Answer: 348

Rationale

The correct answer is 348. It's given that 1 fathom is equivalent to 6 feet. Therefore, 58 fathoms is equivalent to $(58 \text{ fathoms})\left(\frac{6 \text{ feet}}{1 \text{ fathom}}\right)$, or 348 feet. Thus, when the camera is at a depth of 58 fathoms, the camera's depth, in feet, is 348.

Question Difficulty: Easy

Question ID dc150731

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

ID: dc150731

How many feet are equivalent to 34 yards? $(1 \text{ yard} = 3 \text{ feet})$

ID: dc150731 Answer

Correct Answer: 102

Rationale

The correct answer is 102. It's given that 1 yard is equivalent to 3 feet. Therefore, 34 yards is equivalent to $(34 \text{ yards})\left(\frac{3 \text{ feet}}{1 \text{ yard}}\right)$, or 102 feet.

Question Difficulty: Easy

Question ID de1add26

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

ID: de1add26

How many meters are equivalent to $2{,}300$ centimeters? $(100 \text{ centimeters} = 1 \text{ meter})$

A. 0.043

B. 23

C. $2{,}400$

D. $230{,}000$

ID: de1add26 Answer

Correct Answer: B

Rationale

Choice B is correct. It's given that 100 centimeters is equal to 1 meter. Therefore, $2{,}300$ centimeters is equivalent to $(2{,}300 \text{ centimeters})\left(\frac{1 \text{ meter}}{100 \text{ centimeters}}\right)$, or 23 meters.

Choice A is incorrect. 0.043 meters is equivalent to 4.3, not $2{,}300$, centimeters.

Choice C is incorrect. $2{,}400$ meters is equivalent to $240{,}000$, not $2{,}300$, centimeters.

Choice D is incorrect. $230{,}000$ meters is equivalent to $23{,}000{,}000$, not $2{,}300$, centimeters.

Question Difficulty: Easy

Question ID 162af826

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

ID: 162af826

A product costs 11.00 dollars per pound. What is the cost, in dollars, for 6 pounds of the product?

ID: 162af826 Answer

Correct Answer: 66

Rationale

The correct answer is 66. It's given that a product costs 11.00 dollars per pound. Therefore, the cost for 6 pounds of the product is $\left(\frac{11.00 \text{ dollars}}{1 \text{ pound}}\right)(6 \text{ pounds})$, which is equivalent to 66.00, or 66, dollars.

Question Difficulty: Easy

Question ID a26ec64e

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

ID: a26ec64e

The ratio of the length of line segment XY to the length of line segment ZV is 6 to 1. If the length of line segment XY is 102 inches, what is the length, in inches, of line segment ZV?

A. 17

B. 96

C. 102

D. 612

ID: a26ec64e Answer

Correct Answer: A

Rationale

Choice A is correct. It's given that the ratio of the length of line segment XY to the length of line segment ZV is 6 to 1, which means $\frac{XY}{ZV} = \frac{6}{1}$. It's given that the length of line segment XY is 102 inches. If the length, in inches, of line segment ZV is represented by ℓ, the value of ℓ can be calculated by solving the equation $\frac{102}{\ell} = \frac{6}{1}$, or $\frac{102}{\ell} = 6$. Multiplying each side of this equation by ℓ yields $102 = 6\ell$. Dividing each side of this equation by 6 yields $17 = \ell$. Therefore, the length of line segment ZV is 17 inches.

Choice B is incorrect. This is the length, in inches, of line segment ZV if the length of line segment XY is 576, not 102, inches.

Choice C is incorrect. This is the length, in inches, of line segment XY, not line segment ZV.

Choice D is incorrect. This is the length, in inches, of line segment ZV if the ratio of the length of line segment XY to the length of line segment ZV is 1 to 6, not 6 to 1.

Question Difficulty: Easy

Question ID 7203f371

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

ID: 7203f371

An object travels at a constant speed of 6 centimeters per second. At this speed, what is the time, in seconds, that it would take for the object to travel 24 centimeters?

ID: 7203f371 Answer

Correct Answer: 4

Rationale

The correct answer is 4. It's given that the object travels at a constant speed of 6 centimeters per second. The speed of the object can be written as $\frac{6 \text{ centimeters}}{1 \text{ second}}$. Let x represent the time, in seconds, it would take for the object to travel 24 centimeters. The value of x can be calculated by solving the equation $\frac{6 \text{ centimeters}}{1 \text{ second}} = \frac{24 \text{ centimeters}}{x \text{ seconds}}$, which can be written as $\frac{6}{1} = \frac{24}{x}$, or $6 = \frac{24}{x}$. Multiplying each side of this equation by x yields $6x = 24$. Dividing each side of this equation by 6 yields $x = 4$. Therefore, it would take the object 4 seconds to travel 24 centimeters.

Question Difficulty: Easy

Question ID 734722b0

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

ID: 734722b0

The population density of Worthington is 290 people per square mile. Worthington has a population of $92{,}800$ people. What is the area, in square miles, of Worthington?

A. $102{,}400$

B. $93{,}090$

C. 320

D. 32

ID: 734722b0 Answer

Correct Answer: C

Rationale

Choice C is correct. It's given that the population density of Worthington is 290 people per square mile and Worthington has a population of $92{,}800$ people. Therefore, the area of Worthington is $92{,}800 \text{ people} \left(\frac{1 \text{ square mile}}{290 \text{ people}} \right)$, which is equivalent to $\frac{92{,}800 \text{ square miles}}{290}$, or 320 square miles.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice B is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 4eaaf644

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

ID: 4eaaf644

A special camera is used for underwater ocean research. The camera is at a depth of 39 fathoms. What is the camera's depth in feet? $(1 \text{ fathom} = 6 \text{ feet})$

A. 234

B. 117

C. 45

D. 7

ID: 4eaaf644 Answer

Correct Answer: A

Rationale

Choice A is correct. It's given that a special camera is used for underwater ocean research, and this camera is at a depth of 39 fathoms. It's also given that 1 fathom is equal to 6 feet. Thus, 39 fathoms is equivalent to $(39 \text{ fathoms})\left(\frac{6 \text{ feet}}{1 \text{ fathom}}\right)$, or 234 feet. Therefore, the camera's depth, in feet, is 234.

Choice B is incorrect. This is the camera's depth, in feet, if the camera is at a depth of 19.5 fathoms.

Choice C is incorrect. This is the camera's depth, in feet, if the camera is at a depth of 7.5 fathoms.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 1f67ae69

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

ID: 1f67ae69

An object travels at a constant speed of 12 centimeters per second. At this speed, what is the time, in seconds, that it would take for the object to travel 108 centimeters?

A. 9

B. 96

C. 120

D. 972

ID: 1f67ae69 Answer

Correct Answer: A

Rationale

Choice A is correct. If the object travels 108 centimeters at a speed of 12 centimeters per second, the time of travel can be determined by dividing the total distance by the speed. This results in $\frac{108 \text{ centimeters}}{12 \text{ centimeters/second}}$, which is 9 seconds.

Choice B is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 4168b08f

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

ID: 4168b08f

Tilly earns p dollars for every w hours of work. Which expression represents the amount of money, in dollars, Tilly earns for $39w$ hours of work?

A. $39p$

B. $\frac{p}{39}$

C. $p + 39$

D. $p - 39$

ID: 4168b08f Answer

Correct Answer: A

Rationale

Choice A is correct. It's given that Tilly earns p dollars for every w hours of work. This can be represented by the proportion $\frac{p}{w}$. The amount of money, x, Tilly earns for $39w$ hours of work can be found by setting up the proportion $\frac{p}{w} = \frac{x}{39w}$. This can be rewritten as $39pw = xw$. Dividing both sides by w results in $x = 39p$.

Choice B is incorrect. This is the amount of money Tilly earns in dollars per hour, not the amount of money Tilly earns for $39w$ hours of work.

Choice C is incorrect. This is the amount of money Tilly earns for w hours of work plus 39, not the amount of money Tilly earns for $39w$ hours of work.

Choice D is incorrect. This is the amount of money Tilly earns for w hours of work minus 39, not the amount of money Tilly earns for $39w$ hours of work.

Question Difficulty: Easy

Question ID d9896b5b

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

ID: d9896b5b

How many teaspoons are equivalent to 44 tablespoons? $(3 \text{ teaspoons} = 1 \text{ tablespoon})$

A. 47

B. 88

C. 132

D. 176

ID: d9896b5b Answer

Correct Answer: C

Rationale

Choice C is correct. It's given that 3 teaspoons is equivalent to 1 tablespoon. Therefore, 44 tablespoons is equivalent to $(44 \text{ tablespoons})\left(\frac{3 \text{ teaspoons}}{1 \text{ tablespoon}}\right)$, or 132 teaspoons.

Choice A is incorrect. This is equivalent to approximately 15.66 tablespoons, not 44 tablespoons.

Choice B is incorrect. This is equivalent to approximately 29.33 tablespoons, not 44 tablespoons.

Choice D is incorrect. This is equivalent to approximately 58.66 tablespoons, not 44 tablespoons.

Question Difficulty: Easy

Question ID a7de288f

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

ID: a7de288f

What length, in centimeters, is equivalent to a length of 51 meters? $(1\ \text{meter} = 100\ \text{centimeters})$

A. 0.051

B. 0.51

C. $5{,}100$

D. $51{,}000$

ID: a7de288f Answer

Correct Answer: C

Rationale

Choice C is correct. Since 1 meter is equal to 100 centimeters, 51 meters is equal to $51\ \text{meters}\left(\frac{100\ \text{centimeters}}{1\ \text{meter}}\right)$, or $5{,}100$ centimeters.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice B is incorrect and may result from dividing, rather than multiplying, 51 by 100.

Choice D is incorrect. This is the length, in millimeters rather than centimeters, that is equivalent to a length of 51 meters.

Question Difficulty: Easy

Question ID 353d7e3a

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

ID: 353d7e3a

How many yards are equivalent to $1{,}116$ inches? $(1 \text{ yard} = 36 \text{ inches})$

ID: 353d7e3a Answer

Correct Answer: 31

Rationale

The correct answer is 31. It's given that 1 yard is equal to 36 inches. Therefore, $1{,}116$ inches is equivalent to $(1{,}116 \text{ inches})\left(\frac{1 \text{ yard}}{36 \text{ inches}}\right)$, or 31 yards.

Question Difficulty: Easy