Question ID dd899ebf

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: dd899ebf

What is the area, in square centimeters, of a rectangle with a length of $34\ \text{centimeters}\ (\text{cm})$ and a width of $29\ \text{cm}$?

ID: dd899ebf Answer

Correct Answer: 986

Rationale

The correct answer is 986. The area, A, of a rectangle is given by $A = lw$, where l is the length of the rectangle and w is its width. It's given that the length of the rectangle is 34 centimeters (cm) and the width is 29 cm. Substituting 34 for l and 29 for w in the equation $A = lw$ yields $A = 3429$, or $A = 986$. Therefore, the area, in square centimeters, of this rectangle is 986.

Question Difficulty: Easy

Question ID b517b769

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: b517b769

Triangle R has an area of 80 square centimeters (cm^2). Square S has side lengths of 4 cm. What is the total area of triangle R and square S, in cm^2?

A. 42

B. 44

C. 84

D. 96

ID: b517b769 Answer

Correct Answer: D

Rationale

Choice D is correct. It's given that triangle R has an area of 80 cm^2. The area of a square is l^2, where l is the side length of the square. It's given that square S has side lengths of 4 cm. It follows that the area, in cm^2, of square S is 4^2, or 16. Therefore, the total area, in cm^2, of triangle R and square S is $80 + 16$, or 96.

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

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

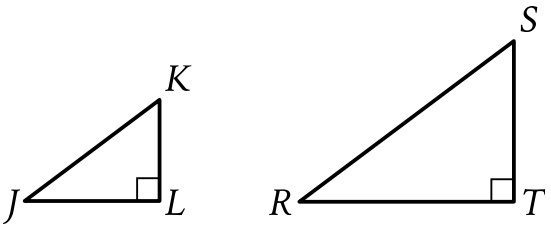
Choice C is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 82cf5449

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: 82cf5449



Note: Figure not drawn to scale.

In the figure shown, triangle JKL is similar to triangle RST, where J corresponds to R and K corresponds to S. The length of $\overline{JK}$ is 15, and the perimeter of triangle JKL is 36. The length of $\overline{RS}$ is 135. What is the perimeter of triangle RST?

A. 324

B. 540

C. $2{,}916$

D. $8{,}100$

ID: 82cf5449 Answer

Correct Answer: A

Rationale

Choice A is correct. It's given that triangle JKL is similar to triangle RST, where J corresponds to R and K corresponds to S. It follows that $\bar{JK}$ corresponds to $\bar{RS}$. If two triangles are similar, then the scale factor between their perimeters is equal to the scale factor between the lengths of their corresponding sides. It's given that the length of $\bar{JK}$ is 15 and the length of $\bar{RS}$ is 135. Therefore, the scale factor from the length of $\bar{JK}$ to the length of $\bar{RS}$ is $\frac{135}{15}$, or 9. It's given that the perimeter of triangle JKL is 36. Let p represent the perimeter of triangle RST. It follows that $\frac{p}{36} = 9$. Multiplying each side of this equation by 36 yields $p = 324$. Therefore, the perimeter of triangle RST is 324.

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 4a5341e5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: 4a5341e5

The area of a rectangle is 57 square inches. The length of the longest side of the rectangle is 19 inches. What is the length, in inches, of the shortest side of this rectangle?

ID: 4a5341e5 Answer

Correct Answer: 3

Rationale

The correct answer is 3. The area of a rectangle can be calculated by multiplying the length of its longest side by the length of its shortest side. It's given that the area of the rectangle is 57 square inches and the length of the longest side of the rectangle is 19 inches. Let x represent the length, in inches, of the shortest side of this rectangle. It follows that $57 = 19x$. Dividing both sides of this equation by 19 yields $3 = x$. Therefore, the length, in inches, of the shortest side of the rectangle is 3.

Question Difficulty: Easy

Question ID a5cc361b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: a5cc361b

What is the perimeter, in inches, of a rectangle with a length of 4 inches and a width of 9 inches?

A. 13

B. 17

C. 22

D. 26

ID: a5cc361b Answer

Correct Answer: D

Rationale

Choice D is correct. The perimeter of a figure is equal to the sum of the measurements of the sides of the figure. It's given that the rectangle has a length of 4 inches and a width of 9 inches. Since a rectangle has 4 sides, of which opposite sides are parallel and equal, it follows that the rectangle has two sides with a length of 4 inches and two sides with a width of 9 inches. Therefore, the perimeter of this rectangle is $4 + 4 + 9 + 9$, or 26 inches.

Choice A is incorrect. This is the sum, in inches, of the length and the width of the rectangle.

Choice B is incorrect. This is the sum, in inches, of the two lengths and the width of the rectangle.

Choice C is incorrect. This is the sum, in inches, of the length and the two widths of the rectangle.

Question Difficulty: Easy

Question ID e401c722

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: e401c722

What is the area of a rectangle with a length of 17 centimeters (cm) and a width of 7 cm?

A. $24\ \text{cm}^2$

B. $48\ \text{cm}^2$

C. $119\ \text{cm}^2$

D. $576\ \text{cm}^2$

ID: e401c722 Answer

Correct Answer: C

Rationale

Choice C is correct. The area of a rectangle with length l and width w can be found using the formula $A = lw$. It's given that the rectangle has a length of $17\ \text{cm}$ and a width of $7\ \text{cm}$. Therefore, the area of this rectangle is $A = 177$, or $119\ \text{cm}^2$.

Choice A is incorrect. This is the sum of the length and width of the rectangle, not the area.

Choice B is incorrect. This is the perimeter of the rectangle, not the area.

Choice D is incorrect. This is the sum of the length and width of the rectangle squared, not the area.

Question Difficulty: Easy

Question ID ad3bc7a0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: ad3bc7a0

Rectangle P has an area of 72 square inches. If a rectangle with an area of 20 square inches is removed from rectangle P, what is the area, in square inches, of the resulting figure?

A. 92

B. 84

C. 80

D. 52

ID: ad3bc7a0 Answer

Correct Answer: D

Rationale

Choice D is correct. It's given that rectangle P has an area of 72 square inches. If a rectangle with an area of 20 square inches is removed from rectangle P, the area, in square inches, of the resulting figure is $72 - 20$, or 52.

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

Question Difficulty: Easy

Question ID a1060875

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: a1060875

A rectangle has a length of 13 and a width of 6. What is the perimeter of the rectangle?

A. 12

B. 26

C. 38

D. 52

ID: a1060875 Answer

Correct Answer: C

Rationale

Choice C is correct. The perimeter of a quadrilateral is the sum of the lengths of its four sides. It's given that the rectangle has a length of 13 and a width of 6. It follows that the rectangle has two sides with length 13 and two sides with length 6. Therefore, the perimeter of the rectangle is $13 + 13 + 6 + 6$, or 38.

Choice A is incorrect. This is the sum of the lengths of the two sides with length 6, not the sum of the lengths of all four sides of the rectangle.

Choice B is incorrect. This is the sum of the lengths of the two sides with length 13, not the sum of the lengths of all four sides of the rectangle.

Choice D is incorrect. This is the perimeter of a rectangle that has four sides with length 13, not two sides with length 13 and two sides with length 6.

Question Difficulty: Easy

Question ID 49bb7ed7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: 49bb7ed7

The lengths of two sides of a triangle are 4 centimeters and 6 centimeters. If the perimeter of the triangle is 18 centimeters, what is the length, in centimeters, of the third side of this triangle?

A. 2

B. 8

C. 10

D. 24

ID: 49bb7ed7 Answer

Correct Answer: B

Rationale

Choice B is correct. The perimeter of a triangle is the sum of the lengths of all three of its sides. It's given that the lengths of two sides of a triangle are 4 centimeters and 6 centimeters. Let x represent the length, in centimeters, of the third side of this triangle. The sum of the lengths, in centimeters, of all three sides of the triangle can be represented by the expression $4 + 6 + x$. Since it's given that the perimeter of the triangle is 18 centimeters, it follows that $4 + 6 + x = 18$, or $10 + x = 18$. Subtracting 10 from both sides of this equation yields $x = 8$. Therefore, the length, in centimeters, of the third side of this triangle is 8.

Choice A is incorrect. If the length of the third side of this triangle were 2 centimeters, the perimeter, in centimeters, of the triangle would be $4 + 6 + 2$, or 12, not 18.

Choice C is incorrect. If the length of the third side of this triangle were 10 centimeters, the perimeter, in centimeters, of the triangle would be $4 + 6 + 10$, or 20, not 18.

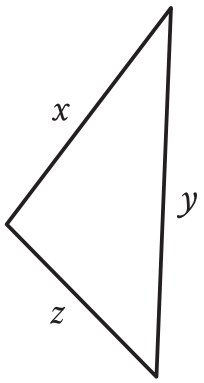
Choice D is incorrect. If the length of the third side of this triangle were 24 centimeters, the perimeter, in centimeters, of the triangle would be $4 + 6 + 24$, or 34, not 18.

Question Difficulty: Easy

Question ID 65c8a78d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: 65c8a78d



Note: Figure not drawn to scale.

The triangle shown has a perimeter of 22 units. If $x = 9$ units and $y = 7$ units, what is the value of z, in units?

A. 6

B. 7

C. 9

D. 16

ID: 65c8a78d Answer

Correct Answer: A

Rationale

Choice A is correct. The perimeter of a triangle is the sum of the lengths of its three sides. The triangle shown has side lengths x, y, and z. It's given that the triangle has a perimeter of 22 units. Therefore, $x + y + z = 22$. If $x = 9$ units and $y = 7$ units, the value of z, in units, can be found by substituting 9 for x and 7 for y in the equation $x + y + z = 22$, which yields $9 + 7 + z = 22$, or $16 + z = 22$. Subtracting 16 from both sides of this equation yields $z = 6$. Therefore, if $x = 9$ units and $y = 7$ units, the value of z, in units, is 6.

Choice B is incorrect. This is the value of y, in units, not the value of z, in units.

Choice C is incorrect. This is the value of x, in units, not the value of z, in units.

Choice D is incorrect. This is the value of $x + y$, in units, not the value of z, in units.

Question Difficulty: Easy

Question ID e5ede4b8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: e5ede4b8

The area of a rectangle is 630 square inches. The length of the rectangle is 70 inches. What is the width, in inches, of this rectangle?

A. 9

B. 70

C. 315

D. 560

ID: e5ede4b8 Answer

Correct Answer: A

Rationale

Choice A is correct. The area A, in square inches, of a rectangle is the product of its length l, in inches, and its width w, in inches; thus, $A = lw$. It's given that the area of a rectangle is 630 square inches and the length of the rectangle is 70 inches. Substituting 630 for A and 70 for l in the equation $A = lw$ yields $630 = 70w$. Dividing both sides of this equation by 70 yields $9 = w$. Therefore, the width, in inches, of this rectangle is 9.

Choice B is incorrect. This is the length, not the width, in inches, of the rectangle.

Choice C is incorrect. This is half the area, in square inches, not the width, in inches, of the rectangle.

Choice D is incorrect. This is the difference between the area, in square inches, and the length, in inches, of the rectangle, not the width, in inches, of the rectangle.

Question Difficulty: Easy

Question ID e95ae88a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: e95ae88a

The perimeter of triangle ABC is 17 inches, the length of side AB is 4 inches, and the length of side AC is 7 inches. What is the length, in inches, of side BC?

A. 4

B. 6

C. 7

D. 11

ID: e95ae88a Answer

Correct Answer: B

Rationale

Choice B is correct. The perimeter of a triangle is the sum of the lengths of all three sides of the triangle. It's given that the lengths of side AB and side AC are 4 inches and 7 inches, respectively. Let x represent the length, in inches, of side BC. The sum of the lengths, in inches, of all three sides of triangle ABC can be represented by the expression $4 + 7 + x$. Since it's given that the perimeter of triangle ABC is 17 inches, it follows that $17 = 4 + 7 + x$, or $17 = 11 + x$. Subtracting 11 from both sides of this equation yields $6 = x$. Therefore, the length, in inches, of side BC is 6.

Choice A is incorrect. This is the length, in inches, of side AB.

Choice C is incorrect. This is the length, in inches, of side AC.

Choice D is incorrect. This is the sum of the lengths, in inches, of sides AB and AC.

Question Difficulty: Easy

Question ID 091c69dd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: 091c69dd

A rectangle has a length of 64 inches and a width of 32 inches. What is the area, in square inches, of the rectangle?

ID: 091c69dd Answer

Correct Answer: 2048

Rationale

The correct answer is $2{,}048$. The area A, in square inches, of a rectangle is equal to the product of its length l, in inches, and its width w, in inches, or $A = lw$. It's given that the rectangle has a length of 64 inches and a width of 32 inches. Substituting 64 for l and 32 for w in the equation $A = lw$ yields $A = 6432$, or $A = 2{,}048$. Therefore, the area, in square inches, of the rectangle is $2{,}048$.

Question Difficulty: Easy

Question ID 850fa30c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: 850fa30c

The side length of a square is 55 centimeters (cm). What is the area, in cm^2, of the square?

A. 110

B. 220

C. $3{,}025$

D. $12{,}100$

ID: 850fa30c Answer

Correct Answer: C

Rationale

Choice C is correct. The area A, in $\text{square centimeters}$ $\left(\text{cm}^2\right)$, of a square with side length s, in cm, is given by the formula $A = s^2$. It's given that the square has a side length of 55 cm. Substituting 55 for s in the formula $A = s^2$ yields $A = 55^2$, or $A = 3{,}025$. Therefore, the area, in cm^2, of the square is $3{,}025$.

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

Choice B is incorrect. This is the perimeter, in cm, of the square, not its area, in cm^2.

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

Question Difficulty: Easy

Question ID 0f88eb2d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: 0f88eb2d

The table gives the perimeters of similar triangles TUV and XYZ, where $\overline{TU}$ corresponds to $\overline{XY}$. The length of $\overline{TU}$ is 6.

	Perimeter
Triangle TUV	50
Triangle XYZ	150

What is the length of $\overline{XY}$?

A. 2

B. 6

C. 18

D. 56

ID: 0f88eb2d Answer

Correct Answer: C

Rationale

Choice C is correct. It's given that triangle TUV is similar to triangle XYZ, and $\overline{TU}$ corresponds to $\overline{XY}$. If two triangles are similar, then the ratio of their perimeters is equal to the ratio of their corresponding sides. It's given that the perimeter of triangle TUV is 50, the perimeter of triangle XYZ is 150, and the length of $\overline{TU}$ is 6. Let n represent the length of $\overline{XY}$. It follows that $\frac{50}{150} = \frac{6}{n}$, or $\frac{1}{3} = \frac{6}{n}$. Multiplying each side of this equation by n yields $\frac{n}{3} = 6$. Multiplying each side of this equation by 3 yields $n = 18$. Therefore, the length of $\overline{XY}$ is 18.

Choice A is incorrect. This is the solution to $\frac{3}{1} = \frac{6}{n}$, not $\frac{1}{3} = \frac{6}{n}$.

Choice B is incorrect. This is the length of $\overline{TU}$, not $\overline{XY}$.

Choice D is incorrect. This is the sum of the length of $\overline{TU}$ and the perimeter of triangle TUV, not the length of $\overline{XY}$.

Question Difficulty: Easy

Question ID fd6f7271

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: fd6f7271

What is the area, in square inches, of a rectangle with a length of 7 inches and a width of 6 inches?

A. 13

B. 20

C. 42

D. 84

ID: fd6f7271 Answer

Correct Answer: C

Rationale

Choice C is correct. The area, A, of a rectangle is given by the formula $A = lw$, where l represents the length of the rectangle and w represents its width. It's given that the rectangle has a length of 7 inches and a width of 6 inches. Substituting 7 for l and 6 for w in the formula $A = lw$ yields $A = 76$, or $A = 42$. Thus, the area, in square inches, of the rectangle is 42.

Choice A is incorrect. This is the sum, not the product, of the length and width of the rectangle.

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

Choice D is incorrect. This is twice the area, in square inches, of the rectangle.

Question Difficulty: Easy

Question ID 397307ae

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: 397307ae

What is the area, in square centimeters, of a rectangle with a length of 36 centimeters and a width of 34 centimeters?

A. 70

B. 140

C. $1{,}156$

D. $1{,}224$

ID: 397307ae Answer

Correct Answer: D

Rationale

Choice D is correct. The area A, in square centimeters, of a rectangle can be found using the formula $A = lw$, where l is the length, in centimeters, of the rectangle and w is its width, in centimeters. It's given that the rectangle has a length of 36 centimeters and a width of 34 centimeters. Substituting 36 for l and 34 for w in the formula $A = lw$ yields $A = 3634$, or $A = 1{,}224$. Therefore, the area, in square centimeters, of this rectangle is $1{,}224$.

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

Choice B is incorrect. This is the perimeter, in centimeters, not the area, in square centimeters, of the rectangle.

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

Question Difficulty: Easy

Question ID eec9d2dc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: eec9d2dc

The area of a square is 64 square inches. What is the side length, in inches, of this square?

A. 8

B. 16

C. 64

D. 128

ID: eec9d2dc Answer

Correct Answer: A

Rationale

Choice A is correct. It's given that the area of a square is 64 square inches. The area A, in square inches, of a square is given by the formula $A = s^2$, where s is the side length, in inches, of the square. Substituting 64 for A in this formula yields $64 = s^2$. Taking the positive square root of both sides of this equation yields $8 = s$. Thus, the side length, in inches, of this square is 8.

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

Choice C is incorrect. This is the area, in square inches, of the square, not the side length, in inches, of the square.

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

Question Difficulty: Easy

Question ID aaf7481c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: aaf7481c

A rectangle has a length of 3 units and a width of 39 units. Which expression gives the area, in square units, of this rectangle?

A. $2(3 + 39)$

B. $2(3 \cdot 39)$

C. $3 + 39$

D. $3 \cdot 39$

ID: aaf7481c Answer

Correct Answer: D

Rationale

Choice D is correct. The area of a rectangle is given by lw, where l is the length of the rectangle and w is the width of the rectangle. It's given that a rectangle has a length of 3 units and a width of 39 units. It follows that the area of the rectangle is $3 \cdot 39$ square units. Therefore, the expression that gives the area, in square units, of this rectangle, is $3 \cdot 39$.

Choice A is incorrect. This expression gives the perimeter, in units, of this rectangle.

Choice B is incorrect and may result from conceptual errors.

Choice C is incorrect and may result from conceptual errors.

Question Difficulty: Easy

Question ID 532c012b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: 532c012b

Each base of a right rectangular prism has a length of 19 inches and a width of 8 inches. The prism has a volume of $2{,}736$ cubic inches. What is the height, in inches, of the prism?

A. 18

B. 27

C. 144

D. 152

ID: 532c012b Answer

Correct Answer: A

Rationale

Choice A is correct. The volume, V, of a rectangular prism is given by the formula $V = lwh$, where l is the length of the base, w is the width of the base, and h is the height of the prism. It's given that each base of a right rectangular prism has a length of 19 inches and a width of 8 inches, and that the prism has a volume of $2{,}736$ cubic inches. Substituting 19 for l, 8 for w, and $2{,}736$ for V in the formula $V = lwh$ gives $2{,}736 = (19)(8)(h)$, or $2{,}736 = 152h$. Dividing each side of this equation by 152 yields $18 = h$. Therefore, the height, in inches, of the prism is 18.

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. This is the area, in square inches, of the base of the prism, not the height, in inches, of the prism.

Question Difficulty: Easy

Question ID b01d87be

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: b01d87be

A rectangle has an area of 63 square meters and a length of 9 meters. What is the width, in meters, of the rectangle?

A. 7

B. 54

C. 81

D. 567

ID: b01d87be Answer

Correct Answer: A

Rationale

Choice A is correct. The area A, in square meters, of a rectangle is the product of its length l, in meters, and its width w, in meters; thus, $A = lw$. It's given that a rectangle has an area of 63 square meters and a length of 9 meters. Substituting 63 for A and 9 for l in the equation $A = lw$ yields $63 = 9w$. Dividing both sides of this equation by 9 yields $7 = w$. Therefore, the width, in meters, of the rectangle is 7.

Choice B is incorrect. This is the difference between the area, in square meters, and the length, in meters, of the rectangle, not the width, in meters, of the rectangle.

Choice C is incorrect. This is the square of the length, in meters, not the width, in meters, of the rectangle.

Choice D is incorrect. This is the product of the area, in square meters, and the length, in meters, of the rectangle, not the width, in meters, of the rectangle.

Question Difficulty: Easy

Question ID 260c2ab4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: 260c2ab4

Each side of a square has a length of 45. What is the perimeter of this square?

ID: 260c2ab4 Answer

Correct Answer: 180

Rationale

The correct answer is 180. The perimeter of a polygon is equal to the sum of the lengths of the sides of the polygon. It's given that each side of the square has a length of 45. Since a square is a polygon with 4 sides, the perimeter of this square is $45 + 45 + 45 + 45$, or 180.

Question Difficulty: Easy

Question ID 070522bf

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: 070522bf

The width of a rectangle is 7 centimeters. The length of the rectangle is 40 centimeters longer than the width. What is the area, in square centimeters, of this rectangle?

A. 7

B. 14

C. 54

D. 329

ID: 070522bf Answer

Correct Answer: D

Rationale

Choice D is correct. It's given that the width of this rectangle is 7 centimeters and that the length of this rectangle is 40 centimeters longer than the width. Therefore, the length of this rectangle is $7 + 40$, or 47, centimeters. The area of a rectangle can be found by multiplying its length and its width. Therefore the area, in square centimeters, of this rectangle is $7 \cdot 47$, or 329.

Choice A is incorrect. This is the width, in centimeters, not the area, in square centimeters, of this rectangle.

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

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

Question Difficulty: Easy

Question ID 8875a21b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: 8875a21b

What is the area of a rectangle with a length of 4 centimeters (cm) and a width of 2 cm?

A. $6\ \text{cm}^2$

B. $8\ \text{cm}^2$

C. $12\ \text{cm}^2$

D. $36\ \text{cm}^2$

ID: 8875a21b Answer

Correct Answer: B

Rationale

Choice B is correct. The area of a rectangle with length l and width w can be found using the formula $A = lw$. It's given that the rectangle has a length of $4\ \text{cm}$ and a width of $2\ \text{cm}$. Therefore, the area of this rectangle is $4\ \text{cm}\,(2\ \text{cm})$, or $8\ \text{cm}^2$.

Choice A is incorrect. This is the sum, $\text{in}\ \text{cm}$, of the length and width of the rectangle, not the area, $\text{in}\ \text{cm}^2$.

Choice C is incorrect. This is the perimeter, $\text{in}\ \text{cm}$, of the rectangle, not the area, $\text{in}\ \text{cm}^2$.

Choice D is incorrect. This is the sum of the length and width of the rectangle squared, not the area.

Question Difficulty: Easy

Question ID c3ee52e5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: c3ee52e5

A triangle has a base length of 40 centimeters and a height of 90 centimeters. What is the area, in square centimeters, of the triangle?

ID: c3ee52e5 Answer

Correct Answer: 1800

Rationale

The correct answer is $1{,}800$. The area, A, of a triangle can be found using the formula $A = \frac{1}{2}bh$, where b is the base length of the triangle and h is the height of the triangle. It's given that the triangle has a base length of 40 centimeters and a height of 90 centimeters. Substituting 40 for b and 90 for h in the formula $A = \frac{1}{2}bh$ yields $A = \frac{1}{2}4090$, or $A = 1{,}800$. Therefore, the area, in square centimeters, of the triangle is $1{,}800$.

Question Difficulty: Easy

Question ID 8588cf5e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Easy

ID: 8588cf5e

A right rectangular prism has a length of 11 meters, a width of 8 meters, and a height of 10 meters. What is the volume, in cubic meters, of the prism?

ID: 8588cf5e Answer

Correct Answer: 880

Rationale

The correct answer is 880. The volume, V, of a right rectangular prism is given by the formula $V = lwh$, where l is the length, w is the width, and h is the height of the prism. It's given that a right rectangular prism has a length of 11 meters, a width of 8 meters, and a height of 10 meters. Substituting 11 for l, 8 for w, and 10 for h in the formula $V = lwh$ yields $V = (11)(8)(10)$, or $V = 880$. Therefore, the volume, in cubic meters, of the prism is 880.

Question Difficulty: Easy