

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 centimeters (cm)** and a width of **29 cm**?

ID: dd899ebf Answer

Correct Answer: 986

Rationale

The correct answer is **986**. The area, A , of a rectangle is given by $A = \ell w$, 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 $A = \ell w$ yields $A = (34)(29)$, or $A = 986$. Therefore, the area, in square centimeters, of this rectangle is **986**.

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 cm²**
- B. **48 cm²**
- C. **119 cm²**
- D. **576 cm²**

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 cm** and a width of **7 cm**. Therefore, the area of this rectangle is $A = 17(7)$, or **119 cm²**.

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**.

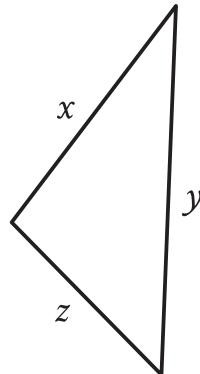
Choice D is incorrect. If the length of the third side of this triangle were **24** centimeters, the perimeter, in centimeters, of the triangle would be $4 + 6 + 24$, or **34**, not **18**.

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, $A = \ell w$. 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 $A = \ell w$ 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 $A = \ell w$. 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 $A = \ell w$ yields $A = (64)(32)$, 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 cm²**, 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 square centimeters (cm²)**, 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 cm²**, 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 cm²**.

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

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 $A = \ell w$, 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 $A = \ell w$ yields $A = (7)(6)$, 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 $A = \ell w$, 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 $A = \ell w$ yields $A = 36(34)$, 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 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, $A = \ell w$. 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 $A = \ell w$ 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 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 cm²**
- B. **8 cm²**
- C. **12 cm²**
- D. **36 cm²**

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 $A = \ell w$. It's given that the rectangle has a length of **4 cm** and a width of **2 cm**. Therefore, the area of this rectangle is $(4 \text{ cm})(2 \text{ cm})$, or **8 cm²**.

Choice A is incorrect. This is the sum, **in cm**, of the length and width of the rectangle, not the area, **in cm²**.

Choice C is incorrect. This is the perimeter, **in cm**, of the rectangle, not the area, **in cm²**.

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 $A = \frac{1}{2}(40)(90)$, or $A = 1,800$. Therefore, the area, in square centimeters, of the triangle is **1,800**.

Question Difficulty: Easy