Question ID 6692f86d

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

ID: 6692f86d
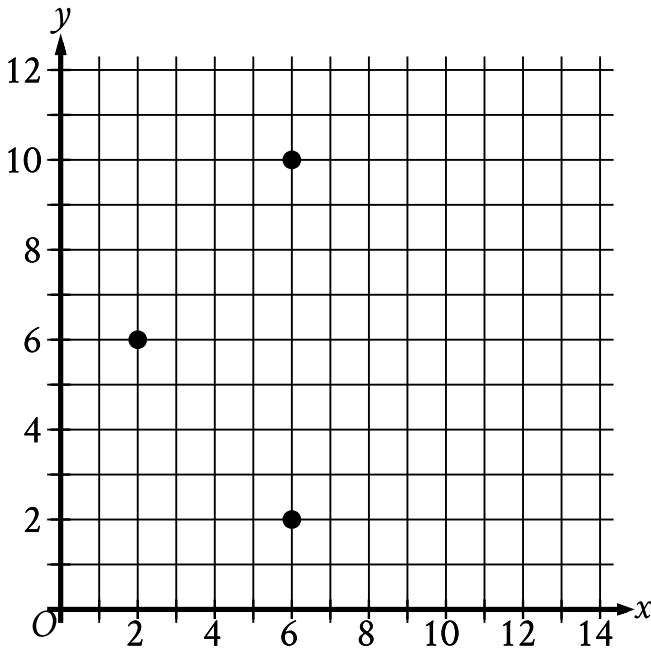
The three points shown define a circle. The circumference of this circle is $k\pi$, where k is a constant. What is the value of k?

Question ID 5a4c2576

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

ID: 5a4c2576

Rectangle $ABCD$ is similar to rectangle $EFGH$. The area of rectangle $ABCD$ is 648 square inches, and the area of rectangle $EFGH$ is 72 square inches. The length of the longest side of rectangle $ABCD$ is 36 inches. What is the length, in inches, of the longest side of rectangle $EFGH$?

A. 4

B. 9

C. 12

D. 36

Question ID 9eeacc73

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

ID: 9eeacc73

A right rectangular prism has a length of 28 centimeters (cm), a width of 15 cm, and a height of 16 cm. What is the surface area, in cm^2, of the right rectangular prism?

Question ID 77b4f5c9

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

ID: 77b4f5c9

The circumference of the base of a right circular cylinder is 20π meters, and the height of the cylinder is 6 meters. What is the volume, in cubic meters, of the cylinder?

A. 60π

B. 120π

C. 600π

D. $2,400\pi$

Question ID 559068d5

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

ID: 559068d5

A rectangular poster has an area of 360 square inches. A copy of the poster is made in which the length and width of the original poster are each increased by 20%. What is the area of the copy, in square inches?

Question ID 012489f9

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

Rectangles $ABCD$ and $EFGH$ are similar. The length of each side of $EFGH$ is 6 times the length of the corresponding side of $ABCD$. The area of $ABCD$ is 54 square units. What is the area, in square units, of $EFGH$?

A. 9

B. 36

C. 324

D. $1,944$

Question ID c5a51dda

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

ID: c5a51dda

A cube has a volume of $474{,}552$ cubic units. What is the surface area, in square units, of the cube?

Question ID 429c2a72

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

ID: 429c2a72

A right triangle has sides of length $2\sqrt{2}$, $6\sqrt{2}$, and $\sqrt{80}$ units. What is the area of the triangle, in square units?

A. $8\sqrt{2} + \sqrt{80}$

B. 12

C. $24\sqrt{80}$

D. 24

Question ID 4abd4abf

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

ID: 4abd4abf

A hemisphere is half of a sphere. If a hemisphere has a radius of 27 inches, which of the following is closest to the volume, in cubic inches, of this hemisphere?

A. $1,500$

B. $6,100$

C. $30,900$

D. $41,200$

Question ID 76465540

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

ID: 76465540

The floor of a ballroom has an area of 600 square meters. An architect creates a scale model of the floor of the ballroom, where the length of each side of the model is $\frac{1}{10}$ times the length of the corresponding side of the actual floor of the ballroom. What is the area, in square meters, of the scale model?

A. 6

B. 10

C. 60

D. 150

Question ID 31926070

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

ID: 31926070

A right circular cone has a volume of $71{,}148\pi$ cubic centimeters and the area of its base is $5{,}929\pi$ square centimeters. What is the slant height, in centimeters, of this cone?

A. 12

B. 36

C. 77

D. 85

Question ID 76f470b6

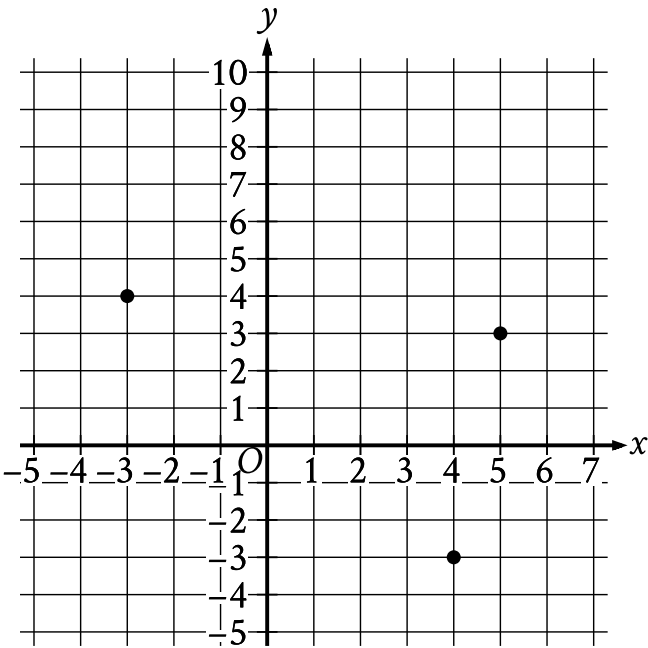| Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	Hard

ID: 76f470b6

Circle A has a radius of $3n$ and circle B has a radius of $129n$, where n is a positive constant. The area of circle B is how many times the area of circle A?

A. 43

B. 86

C. 129

D. $1{,}849$

Question ID 530b2e84

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

What is the area, in square units, of the triangle formed by connecting the three points shown?

Question ID 02545fec

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

ID: 02545fec

A cube has an edge length of 68 inches. A solid sphere with a radius of 34 inches is inside the cube, such that the sphere touches the center of each face of the cube. To the nearest cubic inch, what is the volume of the space in the cube <u>not</u> taken up by the sphere?

A. $149{,}796$

B. $164{,}500$

C. $190{,}955$

D. $310{,}800$

Question ID e901bf6d

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

Parallelogram $ABCD$ is similar to parallelogram $PQRS$. The length of each side of parallelogram $PQRS$ is 2 times the length of its corresponding side of parallelogram $ABCD$. The area of parallelogram $ABCD$ is 5 square centimeters. What is the area, in square centimeters, of parallelogram $PQRS$?

A. 7

B. 10

C. 20

D. 25

Question ID 21f787ad

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

ID: 21f787ad

A right circular cone has a height of $22 \text{ centimeters (cm)}$ and a base with a diameter of 6 cm. The volume of this cone is $n\pi \text{ cm}^3$. What is the value of n?

Question ID 2994adbe

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

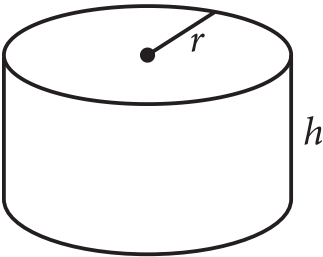**ID: 2994adbe**

A right square prism has a height of 14 units. The volume of the prism is $2,016$ cubic units. What is the length, in units, of an edge of the base?

Question ID c3d0a7fb

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

The figure shown is a right circular cylinder with a radius of r and height of h. A second right circular cylinder (not shown) has a volume that is 392 times as large as the volume of the cylinder shown. Which of the following could represent the radius R, in terms of r, and the height H, in terms of h, of the second cylinder?

A. $R = 8r$ and $H = 7h$

B. $R = 8r$ and $H = 49h$

C. $R = 7r$ and $H = 8h$

D. $R = 49r$ and $H = 8h$

Question ID 675148a3

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

ID: 675148a3

Two identical rectangular prisms each have a height of 90 centimeters (cm). The base of each prism is a square, and the surface area of each prism is $K \; cm^2$. If the prisms are glued together along a square base, the resulting prism has a surface area of $\frac{92}{47} K \; cm^2$. What is the side length, in cm, of each square base?

A. 4

B. 8

C. 9

D. 16

Question ID deb47fce

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

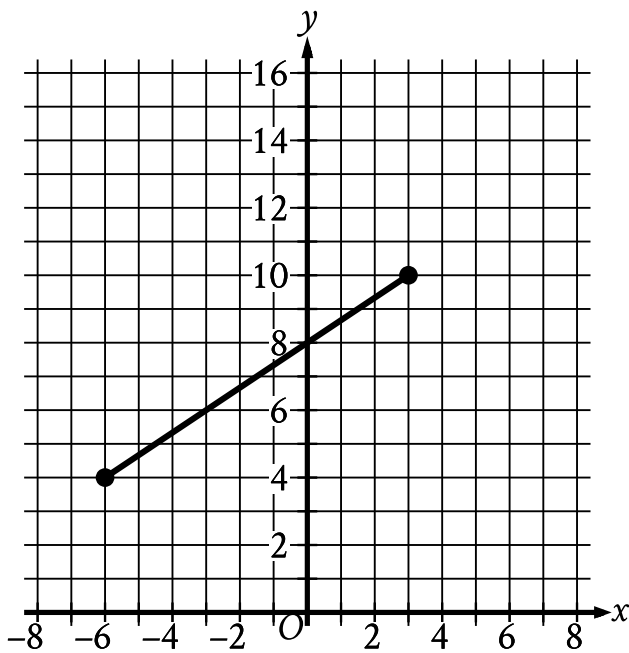**ID: deb47fce**

Square A has side lengths that are 166 times the side lengths of square B. The area of square A is k times the area of square B. What is the value of k?

Question ID 220e72c1

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

ID: 220e72c1

The line segment shown in the *xy*-plane represents one of the legs of a right triangle. The area of this triangle is $36\sqrt{13}$ square units. What is the length, in units, of the other leg of this triangle?

A. 12

B. 24

C. $3\sqrt{13}$

D. $18\sqrt{13}$

Question ID 8235af09

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

ID: 8235af09

Triangles ABC and DEF are similar. Each side length of triangle ABC is 4 times the corresponding side length of triangle DEF. The area of triangle ABC is 270 square inches. What is the area, in square inches, of triangle DEF?

Question ID 9864d5cf

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

ID: 9864d5cf

Right rectangular prism X is similar to right rectangular prism Y. The surface area of right rectangular prism X is 58 square centimeters (cm^2), and the surface area of right rectangular prism Y is $1{,}450\ \text{cm}^2$. The volume of right rectangular prism Y is $1{,}250$ cubic centimeters (cm^3). What is the sum of the volumes, in cm^3, of right rectangular prism X and right rectangular prism Y?