

Question ID 995a6673

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

ID: 995a6673

A right circular cone has a height of **22 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 6e1ab4a5

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

ID: 6e1ab4a5

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

Question ID d7260964

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

ID: d7260964

A circle has a circumference of 31π centimeters. What is the diameter, in centimeters, of the circle?

Question ID 42fab20a

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

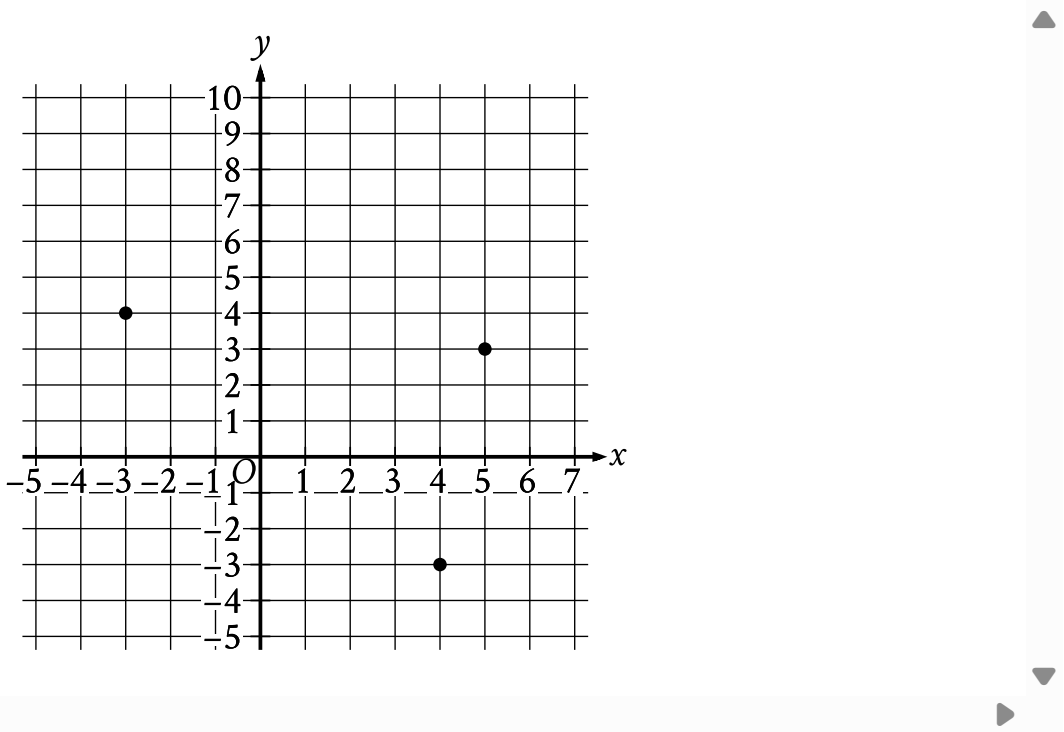
ID: 42fab20a

The length of each edge of a box is **29** inches. Each side of the box is in the shape of a square. The box does not have a lid. What is the exterior surface area, in square inches, of this box without a lid?

Question ID b57ba22f

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

ID: b57ba22f



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

Question ID 470626ec

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

ID: 470626ec

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 not taken up by the sphere?

- A. **149,796**
- B. **164,500**
- C. **190,955**
- D. **310,800**

Question ID cd856d61

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

ID: cd856d61

A sphere has a radius of $\frac{17}{5}$ feet. What is the volume, in cubic feet, of the sphere?

- A. $\frac{5\pi}{17}$
- B. $\frac{68\pi}{15}$
- C. $\frac{32\pi}{5}$
- D. $\frac{19,652\pi}{375}$

Question ID 8001a32f

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

ID: 8001a32f

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 cm²**, of the right rectangular prism?

Question ID c021ed5c

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

ID: c021ed5c

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 173cd9a9

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

ID: 173cd9a9

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 e03c8917

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

ID: e03c8917

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 a85da65c

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

ID: a85da65c

The length of the edge of the base of a right square prism is **6** units. The volume of the prism is **2,880** cubic units. What is the height, in units, of the prism?

- A. $4\sqrt{30}$
- B. **36**
- C. $24\sqrt{5}$
- D. 80

Question ID b9c52ff0

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

ID: b9c52ff0

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 865680fb

Assessment	Test	Domain	Skill	Difficulty
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ID: 865680fb

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 **$K \text{ cm}^2$** . If the prisms are glued together along a square base, the resulting prism has a surface area of $\frac{92}{47}K \text{ cm}^2$. What is the side length, in **cm**, of each square base?

- A. **4**
- B. **8**
- C. **9**
- D. **16**

Question ID 0ee7cc7c

Assessment	Test	Domain	Skill	Difficulty
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ID: 0ee7cc7c

A triangular prism has a height of **8 centimeters (cm)** and a volume of **216 cm³**. What is the area, **in cm²**, of the base of the prism? (The volume of a triangular prism is equal to ***Bh***, where ***B*** is the area of the base and ***h*** is the height of the prism.)

Question ID b64cd60b

Assessment	Test	Domain	Skill	Difficulty
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ID: b64cd60b

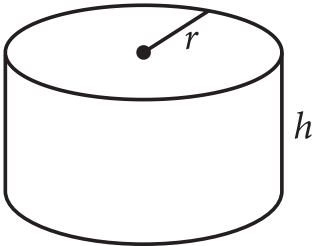
Circle A has a radius of $3n$ and circle B has a radius of $129n$, where n is a positive constant. The area of circle B is how many times the area of circle A ?

- A. 43
- B. 86
- C. 129
- D. 1,849

Question ID 27630f60

Assessment	Test	Domain	Skill	Difficulty
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ID: 27630f60



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 4281df6c

Assessment	Test	Domain	Skill	Difficulty
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ID: 4281df6c

The table gives the perimeters of similar triangles TUV and XYZ , where $\overline{TU}$ corresponds to $\overline{XY}$. The length of $\overline{TU}$ is 18.

	Perimeter
Triangle TUV	37
Triangle XYZ	333

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

- A. 2
- B. 18
- C. 55
- D. 162

Question ID 34ea807c

Assessment	Test	Domain	Skill	Difficulty
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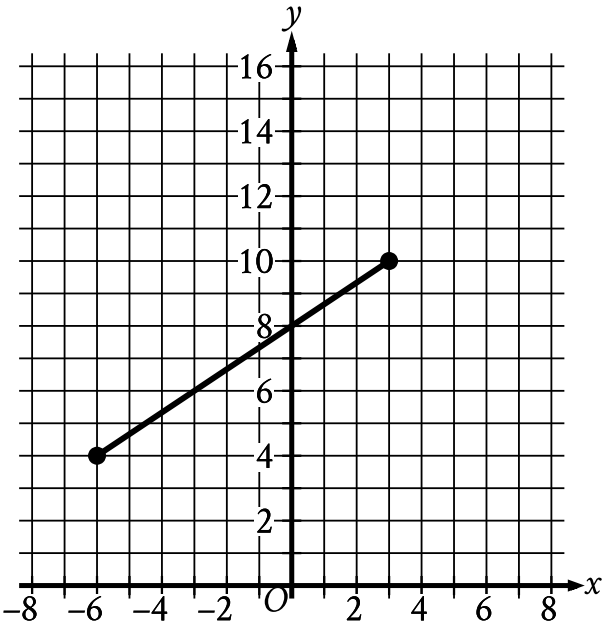
ID: 34ea807c

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 716b70c1

Assessment	Test	Domain	Skill	Difficulty
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ID: 716b70c1



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 18e8b39b

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Area and volume	<div><div></div><div></div><div></div></div>

ID: 18e8b39b

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 ?