Question ID f7dbde16

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: f7dbde16

In triangles LMN and RST, angles L and R each have measure 60°, $LN = 10$, and $RT = 30$. Which additional piece of information is sufficient to prove that triangle LMN is similar to triangle RST?

A. $MN = 7$ and $ST = 7$

B. $MN = 7$ and $ST = 21$

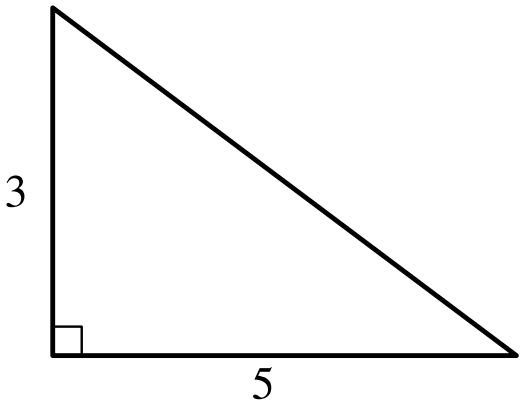
C. The measures of angles M and S are 70° and 60°, respectively.

D. The measures of angles M and T are 70° and 50°, respectively.

Question ID a4ed5285

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

ID: a4ed5285



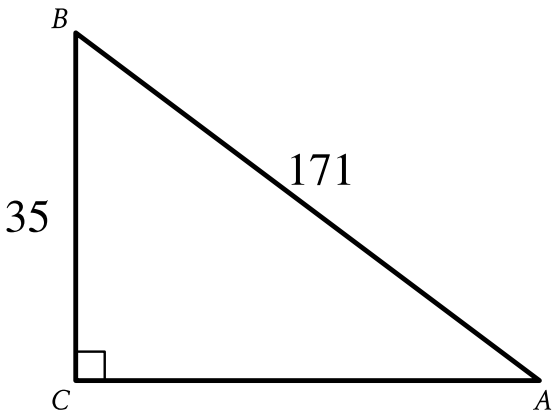
Note: Figure not drawn to scale.

The figure shows the lengths, in inches, of two sides of a right triangle. What is the area of the triangle, in square inches?

Question ID 87a9a2d4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 87a9a2d4



Note: Figure not drawn to scale.

In the right triangle shown, what is the value of $\sin A$?

A. $\frac{1}{171}$

B. $\frac{35}{171}$

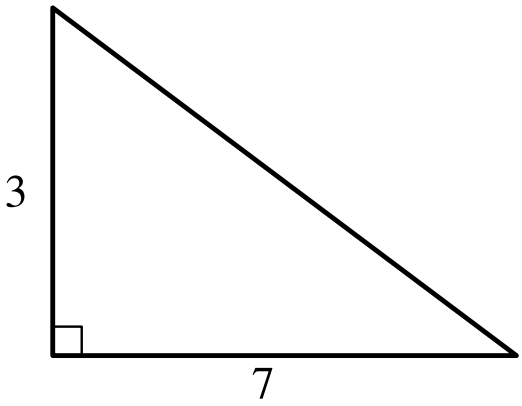
C. $\frac{171}{35}$

D. 171

Question ID e6f2ace7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: e6f2ace7



Note: Figure not drawn to scale.

The lengths of the legs of a right triangle are shown. Which of the following is closest to the length of the triangle's hypotenuse?

A. 3.2

B. 5

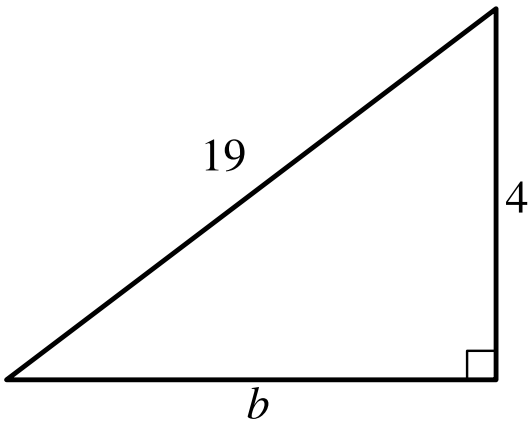
C. 7.6

D. 20

Question ID b0c5ece5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: b0c5ece5



Note: Figure not drawn to scale.

Which equation shows the relationship between the side lengths of the given triangle?

A. $4b = 19$

B. $4 + b = 19$

C. $4^2 + b^2 = 19^2$

D. $4^2 - b^2 = 19^2$

Question ID 76c73dbf

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 76c73dbf

The graph of $x^2 + x + y^2 + y = \frac{199}{2}$ in the *xy*-plane is a circle. What is the length of the circle's radius?

Question ID 58c26db8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 58c26db8

The perimeter of an isosceles right triangle is $18 + 18\sqrt{2}$ inches. What is the length, in inches, of the hypotenuse of this triangle?

A. 9

B. $9\sqrt{2}$

C. 18

D. $18\sqrt{2}$

Question ID e336a1d2

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

ID: e336a1d2

A cube has an edge length of 41 inches. What is the volume, in cubic inches, of the cube?

A. 164

B. $1{,}681$

C. $10{,}086$

D. $68{,}921$

Question ID e4b4e9ea

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

ID: e4b4e9ea

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 c0586eb5

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

ID: c0586eb5

A cylinder has a diameter of 8 inches and a height of 12 inches. What is the volume, in cubic inches, of the cylinder?

A. 16π

B. 96π

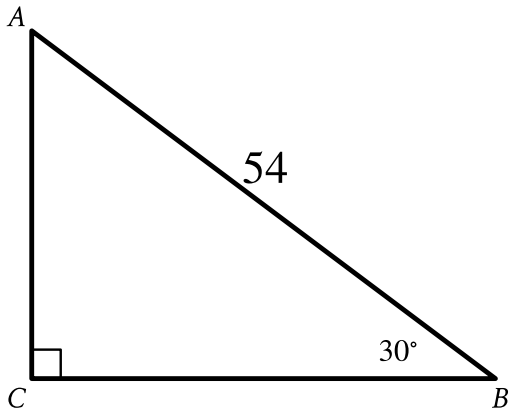
C. 192π

D. 768π

Question ID 52f7b898

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 52f7b898



Note: Figure not drawn to scale.

Right triangle ABC is shown. What is the value of $\tan A$?

A. $\frac{\sqrt{3}}{54}$

B. $\frac{1}{\sqrt{3}}$

C. $\sqrt{3}$

D. $27\sqrt{3}$

Question ID 03c6994f

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

ID: 03c6994f

Square A has side lengths that are 246 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?

A. $60{,}516$

B. 492

C. 246

D. 123

Question ID 151eda3c

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

ID: 151eda3c

A manufacturing company produces two sizes of cylindrical containers that each have a height of 50 centimeters. The radius of container A is 16 centimeters, and the radius of container B is 25% longer than the radius of container A. What is the volume, in cubic centimeters, of container B?

A. $16{,}000\pi$

B. $20{,}000\pi$

C. $25{,}000\pi$

D. $31{,}250\pi$

Question ID 35d37640

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 35d37640

Point F lies on a unit circle in the *xy*-plane and has coordinates $(1, 0)$. Point G is the center of the circle and has coordinates $(0, 0)$. Point H also lies on the circle and has coordinates $(-1, y)$, where y is a constant. Which of the following could be the positive measure of angle FGH, in radians?

A. $\frac{27\pi}{2}$

B. $\frac{29\pi}{2}$

C. 24π

D. 25π

Question ID e50afdd3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: e50afdd3

$$(x+4)^2+(y-19)^2=121$$

The graph of the given equation is a circle in the *xy*-plane. The point (a, b) lies on the circle. Which of the following is a possible value for a?

A. -16

B. -14

C. 11

D. 19

Question ID 167aff9e

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

ID: 167aff9e

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?

Question ID 2266984b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 2266984b

$x^2+20x+y^2+16y=-20$

The equation above defines a circle in the *xy*-plane. What are the coordinates of the center of the circle?

A. $(-20,-16)$

B. $(-10,-8)$

C. $(10,8)$

D. $(20,16)$

Question ID d0b6d927

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

ID: d0b6d927

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

Question ID d621cffb

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

ID: d621cffb

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. $\frac{68\pi}{15}$

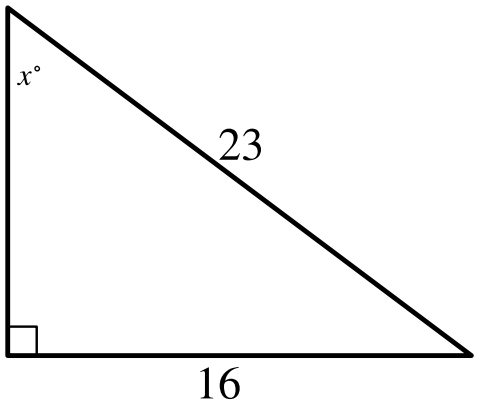
C. $\frac{32\pi}{5}$

D. $\frac{19{,}652\pi}{375}$

Question ID 1429dcdf

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 1429dcdf



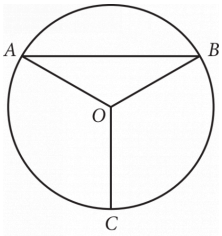
Note: Figure not drawn to scale.

In the triangle shown, what is the value of $\sin x^\circ$?

Question ID 69b0d79d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 69b0d79d



Point O is the center of the circle above, and the measure of $\angle OAB$ is $30°$. If the length of $\overline{OC}$ is 18, what is the length of arc $\overset{\frown}{AB}$?

A. 9π

B. 12π

C. 15π

D. 18π

Question ID 5a7e3b46

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 5a7e3b46

In $\triangle ABC$, $\angle B$ is a right angle and the length of $\overline{BC}$ is 136 millimeters. If $\cos A = \frac{3}{5}$, what is the length, in millimeters, of $\overline{AB}$?

A. 34

B. 102

C. 136

D. 170

Question ID ebbf23ae

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: ebbf23ae

A circle in the *xy*-plane has a diameter with endpoints $(2, 4)$ and $(2, 14)$. An equation of this circle is $(x - 2)^2 + (y - 9)^2 = r^2$, where r is a positive constant. What is the value of r?

Question ID d7a8aa9c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: d7a8aa9c

Each side of equilateral triangle S is multiplied by a scale factor of k to create equilateral triangle T. The length of each side of triangle T is greater than the length of each side of triangle S. Which of the following could be the value of k?

A. $\frac{29}{28}$

B. 1

C. $\frac{28}{29}$

D. 0

Question ID a2659088

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

ID: a2659088

A right circular cylinder has a height of $8\ \text{meters}\ (\text{m})$ and a base with a radius of $12\ \text{m}$. What is the volume, $\text{in}\ \text{m}^3$, of the cylinder?

A. 8π

B. 20π

C. 768π

D. $1{,}152\pi$

Question ID 502d9690

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

ID: 502d9690

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

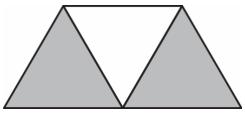
C. 12

D. 36

Question ID 4c95c7d4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 4c95c7d4



A graphic designer is creating a logo for a company. The logo is shown in the figure above. The logo is in the shape of a trapezoid and consists of three congruent equilateral triangles. If the perimeter of the logo is 20 centimeters, what is the combined area of the shaded regions, in square centimeters, of the logo?

A. $2\sqrt{3}$

B. $4\sqrt{3}$

C. $8\sqrt{3}$

D. 16

Question ID b8a225ff

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: b8a225ff

Circle A in the *xy*-plane has the equation $(x+5)^2+(y-5)^2=4$. Circle B has the same center as circle A. The radius of circle B is two times the radius of circle A. The equation defining circle B in the *xy*-plane is $(x+5)^2+(y-5)^2=k$, where k is a constant. What is the value of k?

Question ID b0a72bdc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: b0a72bdc

What is the diameter of the circle in the *xy*-plane with equation $(x-5)^2+(y-3)^2=16$?

A. 4

B. 8

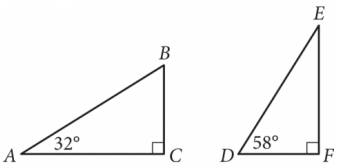
C. 16

D. 32

Question ID 933fee1a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 933fee1a



Triangles *ABC* and *DEF* are shown above. Which of the following is equal to the ratio $\frac{BC}{AB}$?

A. $\frac{DE}{DF}$

B. $\frac{DF}{DE}$

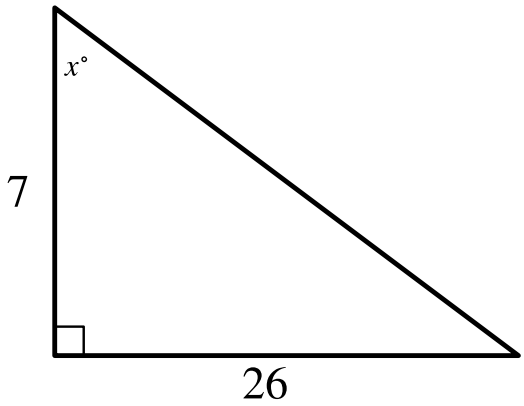
C. $\frac{DF}{EF}$

D. $\frac{EF}{DE}$

Question ID 64c1f044

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 64c1f044



Note: Figure not drawn to scale.

In the triangle shown, what is the value of $\tan x^\circ$?

A. $\frac{1}{26}$

B. $\frac{19}{26}$

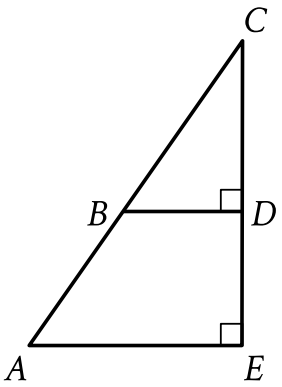
C. $\frac{26}{7}$

D. $\frac{33}{7}$

Question ID 2f7c92ad

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 2f7c92ad



Note: Figure not drawn to scale.

In the figure shown, triangle CAE is similar to triangle CBD. The measure of angle CBD is 57°, and $AE = 26(BD)$. What is the measure of angle CAE?

A. $(26 \cdot 57)^\circ$

B. $(26 + 57)^\circ$

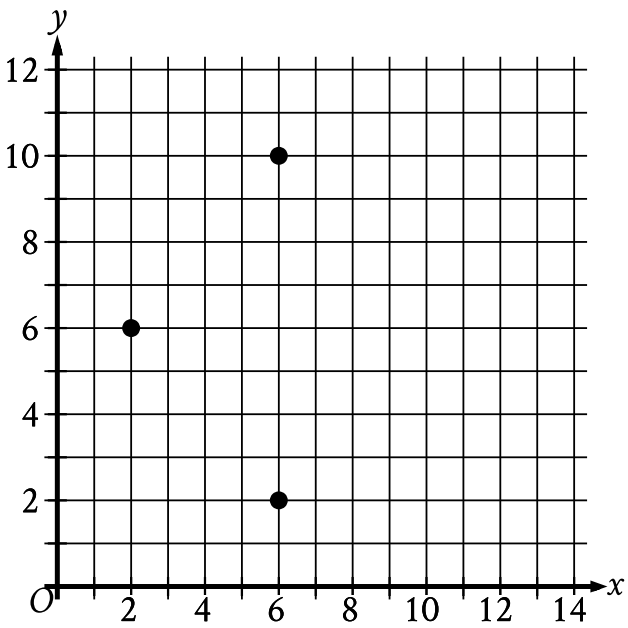
C. 57°

D. 26°

Question ID b2528e6b

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

ID: b2528e6b



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 9fec9d49

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

ID: 9fec9d49

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 ba8ca563

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

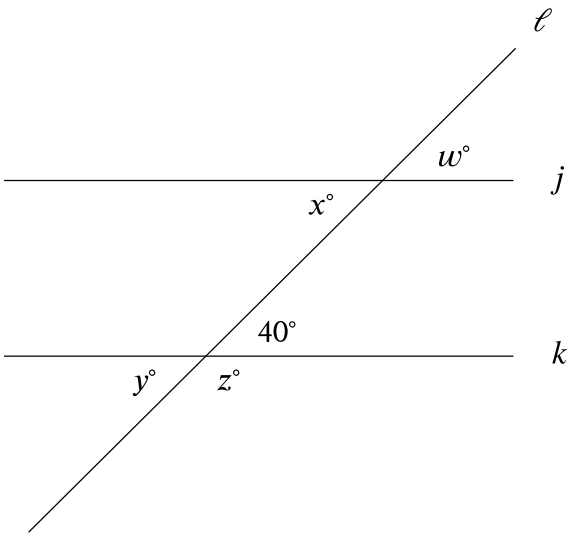
ID: ba8ca563

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

Question ID 9d078710

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 9d078710



Note: Figure not drawn to scale.

In the figure shown, line ℓ intersects lines j and k. Which additional piece of information is sufficient to prove that lines j and k are parallel?

A. $w = 40$

B. $x = 140$

C. $y = 40$

D. $z = 140$

Question ID b1e1c2f5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: b1e1c2f5

In right triangle ABC, angle C is the right angle and $BC = 162$. Point D on side AB is connected by a line segment with point E on side AC such that line segment DE is parallel to side BC and $CE = 2AE$. What is the length of line segment DE?

Question ID 0d43db90

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

ID: 0d43db90

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

Question ID e0874bc2

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

ID: e0874bc2

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 a4bd60a3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: a4bd60a3

The perimeter of an equilateral triangle is 624 centimeters. The height of this triangle is $k\sqrt{3}$ centimeters, where k is a constant. What is the value of k?

Question ID 899c6042

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

ID: 899c6042

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 $n\pi$ cm^3. What is the value of n?

Question ID 498d6795

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 498d6795

In triangle ABC, angle B is a right angle. The length of side AB is $10\sqrt{37}$ and the length of side BC is $24\sqrt{37}$. What is the length of side AC?

A. $14\sqrt{37}$

B. $26\sqrt{37}$

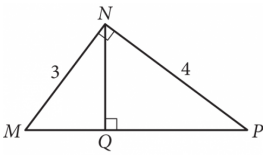
C. $34\sqrt{37}$

D. $\sqrt{34 \cdot 37}$

Question ID 740bf79f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 740bf79f



In the figure above, what is the length of $\overline{NQ}$?

A. 2.2

B. 2.3

C. 2.4

D. 2.5

Question ID 0e40dfb0

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

ID: 0e40dfb0

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. $3 \cdot 39$

Question ID 3b225698

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 3b225698

Triangle XYZ is similar to triangle RST such that X, Y, and Z correspond to R, S, and T, respectively. The measure of $\angle Z$ is 20° and $2XY = RS$. What is the measure of $\angle T$?

A. 2°

B. 10°

C. 20°

D. 40°

Question ID 249d3f80

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 249d3f80

Point O is the center of a circle. The measure of arc RS on this circle is 100°. What is the measure, in degrees, of its associated angle ROS?

Question ID fc5ef8d3

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

ID: fc5ef8d3

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

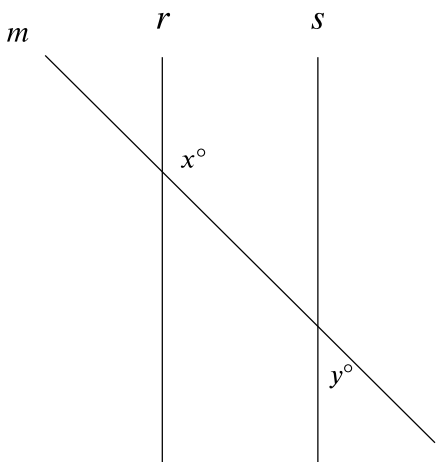
C. 18

D. 56

Question ID a4c05a1b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: a4c05a1b



Note: Figure not drawn to scale.

In the figure shown, lines r and s are parallel, and line m intersects both lines. If $y < 65$, which of the following must be true?

A. $x < 115$

B. $x > 115$

C. $x + y < 180$

D. $x + y > 180$

Question ID 38517165

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

ID: 38517165

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

Question ID ab176ad6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: ab176ad6

The equation $(x+6)^2+(y+3)^2=121$ defines a circle in the *xy*-plane. What is the radius of the circle?

Question ID 98c12e38

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

ID: 98c12e38

Circle K has a radius of 4 millimeters (mm). Circle L has an area of 100π mm^2. What is the total area, in mm^2, of circles K and L?

A. 14π

B. 28π

C. 56π

D. 116π

Question ID aa2d36fe

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: aa2d36fe

A circle in the *xy*-plane has the equation $(x-13)^2+(y-k)^2=64$. Which of the following gives the center of the circle and its radius?

A. The center is at $(13, k)$ and the radius is 8.

B. The center is at $(k, 13)$ and the radius is 8.

C. The center is at $(k, 13)$ and the radius is 64.

D. The center is at $(13, k)$ and the radius is 64.

Question ID d3fe472f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: d3fe472f

Triangle ABC is similar to triangle XYZ, such that A, B, and C correspond to X, Y, and Z respectively. The length of each side of triangle XYZ is 2 times the length of its corresponding side in triangle ABC. The measure of side AB is 16. What is the measure of side XY?

A. 14

B. 16

C. 18

D. 32

Question ID f9d40000

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: f9d40000

In $\triangle XYZ$, the measure of $\angle X$ is 23° and the measure of $\angle Y$ is 66°. What is the measure of $\angle Z$?

A. 43°

B. 89°

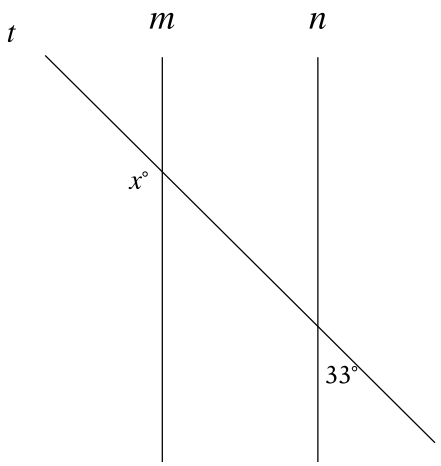
C. 91°

D. 179°

Question ID 0d3f51dc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 0d3f51dc



Note: Figure not drawn to scale.

In the figure, line m is parallel to line n, and line t intersects both lines. What is the value of x?

A. 33

B. 57

C. 123

D. 147

Question ID fd8745fc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: fd8745fc

In triangle JKL, the measures of $\angle K$ and $\angle L$ are each 48°. What is the measure of $\angle J$, in degrees? (Disregard the degree symbol when entering your answer.)

Question ID b434e103

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: b434e103

In $\triangle RST$, the measure of $\angle R$ is 63°. Which of the following could be the measure, in degrees, of $\angle S$?

A. 116

B. 118

C. 126

D. 180

Question ID 3e577e4a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 3e577e4a

A circle in the *xy*-plane has its center at $(-4, -6)$. Line k is tangent to this circle at the point $(-7, -7)$. What is the slope of line k ?

A. -3

B. $-\frac{1}{3}$

C. $\frac{1}{3}$

D. 3

Question ID b0dc920d

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

ID: b0dc920d

A manufacturer determined that right cylindrical containers with a height that is 4 inches longer than the radius offer the optimal number of containers to be displayed on a shelf. Which of the following expresses the volume, V, in cubic inches, of such containers, where r is the radius, in inches?

A. $V = 4\pi r^3$

B. $V = \pi(2r)^3$

C. $V = \pi r^2 + 4\pi r$

D. $V = \pi r^3 + 4\pi r^2$

Question ID 2085e10e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 2085e10e

In triangle DEF, the measure of angle D is 47° and the measure of angle E is 97°. In triangle RST, the measure of angle R is 47° and the measure of angle S is 97°. Which of the following additional pieces of information is needed to determine whether triangle DEF is similar to triangle RST?

A. The measure of angle F

B. The measure of angle T

C. The measure of angle F and the measure of angle T

D. No additional information is needed.

Question ID 689abc2a

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

ID: 689abc2a

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

Question ID fa2771d5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: fa2771d5

Circle A has equation $(x-7)^2+(y+3)^2=1$. In the xy-plane, circle B is obtained by translating circle A to the right 4 units. Which equation represents circle B?

A. $(x-7)^2+(y+7)^2=1$

B. $(x-3)^2+(y+3)^2=1$

C. $(x-11)^2+(y+3)^2=1$

D. $(x-7)^2+(y-1)^2=1$

Question ID bbaac300

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: bbaac300

Triangle ABC is similar to triangle DEF, where angle A corresponds to angle D, and angles C and F are right angles. If $\cos B = \frac{1}{22}$, what is the value of $\cos E$?

A. $\frac{1}{22}$

B. $\frac{1}{23}$

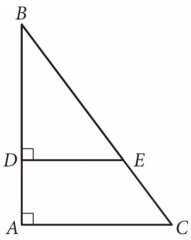
C. $\frac{21}{22}$

D. $\frac{22}{23}$

Question ID 55bb437a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 55bb437a



In the figure above, $\tan B = \frac{3}{4}$. If $BC = 15$ and $DA = 4$, what is the length of $\overline{DE}$?

Question ID c7bed21d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: c7bed21d

Quadrilateral $P'Q'R'S'$ is similar to quadrilateral $PQRS$, where P, Q, R, and S correspond to P', Q', R', and S', respectively. The measure of angle P is 30°, the measure of angle Q is 50°, and the measure of angle R is 70°. The length of each side of $P'Q'R'S'$ is 3 times the length of each corresponding side of $PQRS$. What is the measure of angle P'?

A. 10°

B. 30°

C. 40°

D. 90°

Question ID fecc446d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: fecc446d

A line intersects two parallel lines, forming four acute angles and four obtuse angles. The measure of one of these eight angles is $(7x - 250)^\circ$. The sum of the measures of four of the eight angles is k°. Which of the following could NOT be equivalent to k, for all values of x?

A. $-14x + 1{,}540$

B. $14x - 320$

C. $-28x + 1{,}720$

D. 360

Question ID 8e7689e0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

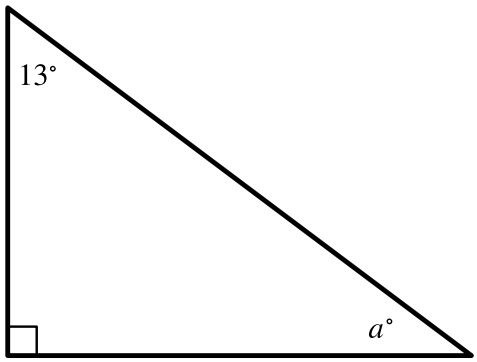
ID: 8e7689e0

The number of radians in a 720-degree angle can be written as $a\pi$, where *a* is a constant. What is the value of *a* ?

Question ID 69f4bbdc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 69f4bbdc



Note: Figure not drawn to scale.

In the right triangle shown, what is the value of a?

A. 13

B. 77

C. 90

D. 103

Question ID 3563d76d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 3563d76d

At a certain time and day, the Washington Monument in Washington, DC, casts a shadow that is 300 feet long. At the same time, a nearby cherry tree casts a shadow that is 16 feet long. Given that the Washington Monument is approximately 555 feet tall, which of the following is closest to the height, in feet, of the cherry tree?

A. 10

B. 20

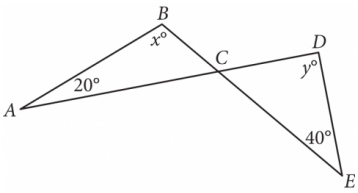
C. 30

D. 35

Question ID dfc420b2

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: dfc420b2



Note: Figure not drawn to scale.

In the figure above, $\overline{AD}$ intersects $\overline{BE}$ at C. If $x = 100$, what is the value of y ?

A. 100

B. 90

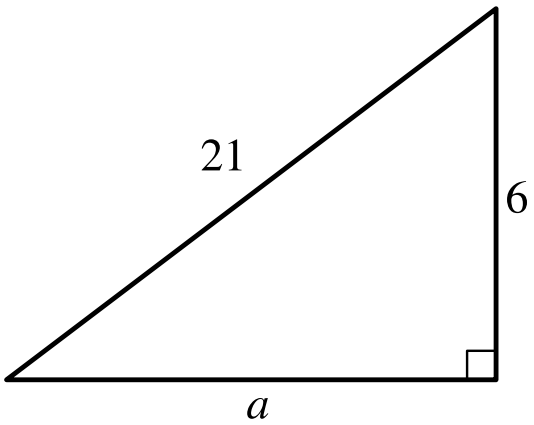
C. 80

D. 60

Question ID de550be0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: de550be0



Note: Figure not drawn to scale.

For the triangle shown, which expression represents the value of a?

A. $\sqrt{21^2 - 6^2}$

B. $21^2 - 6^2$

C. $\sqrt{21 - 6}$

D. $21 - 6$

Question ID f2495de4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: f2495de4

What is the value of $\cos \frac{565\pi}{6}$?

A. $\frac{1}{2}$

B. 1

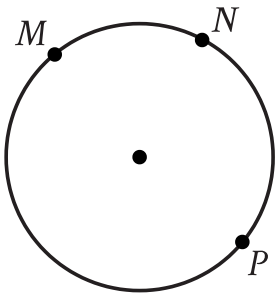
C. $\frac{\sqrt{3}}{2}$

D. $\sqrt{3}$

Question ID 800e71b8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 800e71b8



Points M, N, and P lie on the circle shown. On this circle, minor arc MN has a length of 39 centimeters and major arc MPN has a length of 195 centimeters. What is the circumference, in centimeters, of the circle shown?

A. 39

B. 156

C. 195

D. 234

Question ID 901e3285

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 901e3285

In triangle *ABC*, the measure of angle *A* is $50°$. If triangle *ABC* is isosceles, which of the following is NOT a possible measure of angle *B* ?

A. $50°$

B. $65°$

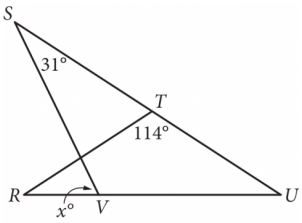
C. $80°$

D. $100°$

Question ID bd7f6e30

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: bd7f6e30



In the figure above, $RT = TU$.

What is the value of x ?

A. 72

B. 66

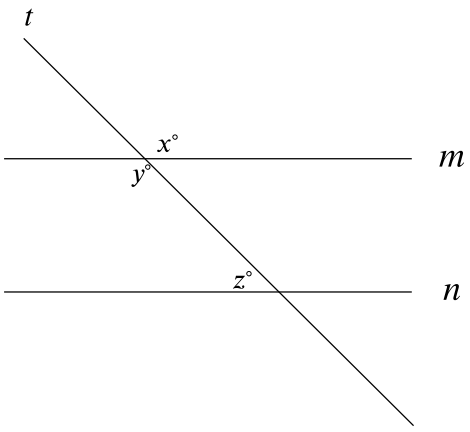
C. 64

D. 58

Question ID 2adbf1b1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 2adbf1b1



Note: Figure not drawn to scale.

In the figure, lines m and n are parallel. If $x = 6k + 13$ and $y = 8k - 29$, what is the value of z?

A. 3

B. 21

C. 41

D. 139

Question ID 6708546e

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

ID: 6708546e

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 ffe862a3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: ffe862a3

An isosceles right triangle has a hypotenuse of length 58 inches. What is the perimeter, in inches, of this triangle?

A. $29\sqrt{2}$

B. $58\sqrt{2}$

C. $58 + 58\sqrt{2}$

D. $58 + 116\sqrt{2}$

Question ID 24cec8d1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 24cec8d1

A circle has center O, and points R and S lie on the circle. In triangle ORS, the measure of $\angle ROS$ is 88°. What is the measure of $\angle RSO$, in degrees? (Disregard the degree symbol when entering your answer.)

Question ID 8c1aa743

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

ID: 8c1aa743

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 44b2b894

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 44b2b894

A rectangle is inscribed in a circle, such that each vertex of the rectangle lies on the circumference of the circle. The diagonal of the rectangle is twice the length of the shortest side of the rectangle. The area of the rectangle is $1{,}089\sqrt{3}$ square units. What is the length, in units, of the diameter of the circle?

Question ID 7700d098

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 7700d098

One leg of a right triangle has a length of 43.2 millimeters. The hypotenuse of the triangle has a length of 196.8 millimeters. What is the length of the other leg of the triangle, in millimeters?

A. 43.2

B. 120

C. 192

D. 201.5

Question ID 0837c3b9

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

ID: 0837c3b9

Triangle *ABC* and triangle *DEF* are similar triangles, where $\overline{AB}$ and $\overline{DE}$ are corresponding sides. If $DE = 2AB$ and the perimeter of triangle *ABC* is 20, what is the perimeter of triangle *DEF* ?

A. 10

B. 40

C. 80

D. 120

Question ID 9e44284b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 9e44284b

In the *xy*-plane, the graph of $2x^2-6x+2y^2+2y=45$ is a circle. What is the radius of the circle?

A. 5

B. 6.5

C. $\sqrt{40}$

D. $\sqrt{50}$

Question ID 54df8076

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

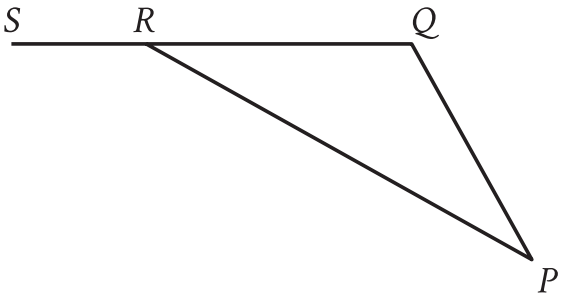
ID: 54df8076

The perimeter of an equilateral triangle is 852 centimeters. The three vertices of the triangle lie on a circle. The radius of the circle is $w\sqrt{3}$ centimeters. What is the value of w?

Question ID 014edcb7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 014edcb7



Note: Figure not drawn to scale.

In triangle PQR, $\overline{QR}$ is extended to point S. The measure of $\angle PQR$ is 132°, and the measure of $\angle PRS$ is 163°. What is the measure of $\angle QPR$?

A. 48°

B. 31°

C. 24°

D. 17°

Question ID 568d66a7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 568d66a7

An isosceles right triangle has a perimeter of $94 + 94\sqrt{2}$ inches. What is the length, in inches, of one leg of this triangle?

A. 47

B. $47\sqrt{2}$

C. 94

D. $94\sqrt{2}$

Question ID 322a6dfe

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 322a6dfe

Quadrilaterals $PQRS$ and $WXYZ$ are similar, where P, Q, and R correspond to W, X, and Y, respectively. The measure of $\angle S$ is 135°, $PS = 45$, and $WZ = 9$. What is the measure of $\angle Z$?

A. 5°

B. 27°

C. 45°

D. 135°

Question ID 0e709a29

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 0e709a29

$$RS = 440$$
$$ST = 384$$
$$TR = 584$$

The side lengths of right triangle RST are given. Triangle RST is similar to triangle UVW, where S corresponds to V and T corresponds to W. What is the value of $\tan W$?

A. $\frac{48}{73}$

B. $\frac{55}{73}$

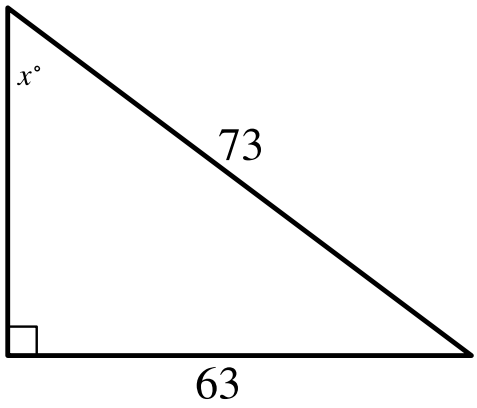
C. $\frac{48}{55}$

D. $\frac{55}{48}$

Question ID a6097ec2

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: a6097ec2



Note: Figure not drawn to scale.

In the right triangle shown, what is the value of $\sin x^\circ$?

A. $\frac{1}{73}$

B. $\frac{10}{73}$

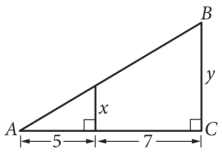
C. $\frac{63}{73}$

D. $\frac{136}{73}$

Question ID eeb4143c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: eeb4143c



Note: Figure not drawn to scale.

The area of triangle *ABC* above is at least 48 but no more than 60. If *y* is an integer, what is one possible value of *x* ?

Question ID 5b2b8866

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

ID: 5b2b8866

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 fc8aa563

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: fc8aa563

What is the center of the circle in the *xy*-plane defined by the equation $(x-1)^2+(y+7)^2=1$?

A. $(-1,-7)$

B. $(-1,7)$

C. $(1,-7)$

D. $(1,7)$

Question ID 9f934297

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

ID: 9f934297

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 2855cb58

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 2855cb58

A circle in the *xy*-plane has its center at $(16, 17)$ and has a radius of $7k$. Which equation represents this circle?

A. $(x-16)^2+(y-17)^2=49k$

B. $(x-16)^2+(y-17)^2=49k^2$

C. $(x-16)^2+(y-17)^2=7k$

D. $(x-16)^2+(y-17)^2=7k^2$

Question ID 575f1e12

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

ID: 575f1e12

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

Question ID 74d8b897

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 74d8b897

An angle has a measure of $\frac{9\pi}{20}$ radians. What is the measure of the angle in degrees?

Question ID b4767bef

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

ID: b4767bef

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

Question ID ee540927

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: ee540927

$$x^2 + 58x + y^2 = 0$$

In the *xy*-plane, the graph of the given equation is a circle. What are the coordinates (x, y) of the center of the circle?

A. $(0, 29)$

B. $(0, -29)$

C. $(29, 0)$

D. $(-29, 0)$

Question ID dc71597b

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

ID: dc71597b

A right circular cone has a volume of $\frac{1}{3}\pi$ cubic feet and a height of 9 feet. What is the radius, in feet, of the base of the cone?

A. $\frac{1}{3}$

B. $\frac{1}{\sqrt{3}}$

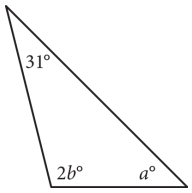
C. $\sqrt{3}$

D. 3

Question ID 410bdbe6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 410bdbe6



In the triangle above, $a = 45$. What is the value of b ?

A. 52

B. 59

C. 76

D. 104

Question ID a0cacec1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

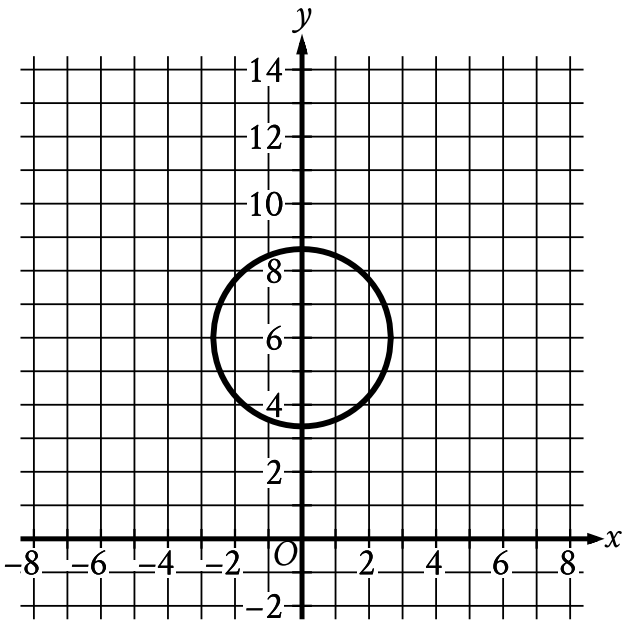
ID: a0cacec1

An angle has a measure of $\frac{16\pi}{15}$ radians. What is the measure of the angle, in degrees?

Question ID 1b2b20b9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 1b2b20b9



Circle A shown is defined by the equation $x^2 + (y - 6)^2 = 7$. Circle B (not shown) has the same radius but is translated 96 units to the right. If the equation of circle B is $(x - h)^2 + (y - k)^2 = a$, where h, k, and a are constants, what is the value of $4a$?

Question ID f811d345

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: f811d345

A right triangle has legs with lengths of 24 centimeters and 21 centimeters. If the length of this triangle's hypotenuse, in centimeters, can be written in the form $3\sqrt{d}$, where d is an integer, what is the value of d?

Question ID c9931030

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: c9931030

$$RS = 20$$
$$ST = 48$$
$$TR = 52$$

The side lengths of right triangle RST are given. Triangle RST is similar to triangle UVW, where S corresponds to V and T corresponds to W. What is the value of $\tan W$?

A. $\frac{5}{13}$

B. $\frac{5}{12}$

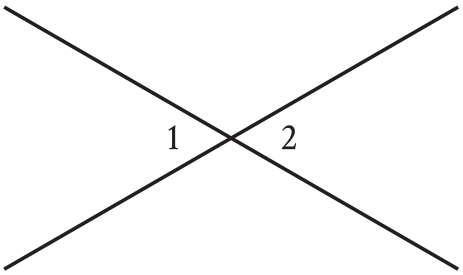
C. $\frac{12}{13}$

D. $\frac{12}{5}$

Question ID a456f28c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: a456f28c



Note: Figure not drawn to scale.

In the figure, two lines intersect at a point. Angle 1 and angle 2 are vertical angles. The measure of angle 1 is 72°. What is the measure of angle 2?

A. 72°

B. 108°

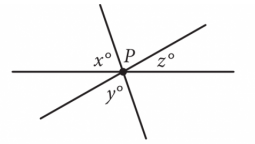
C. 144°

D. 288°

Question ID 087cdcfd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 087cdcfd



Note: Figure not drawn to scale.

In the figure, three lines intersect at point *P*. If $x = 65$ and $y = 75$, what is the value of *z* ?

A. 140

B. 80

C. 40

D. 20

Question ID 6ae1360d

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

ID: 6ae1360d

A circle has a radius of 2.1 inches. The area of the circle is $b\pi$ square inches, where b is a constant. What is the value of b?

Question ID c88183f7

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

ID: c88183f7

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

A. 12

B. 26

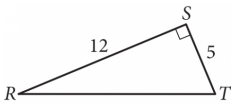
C. 38

D. 52

Question ID 6933b3d9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 6933b3d9

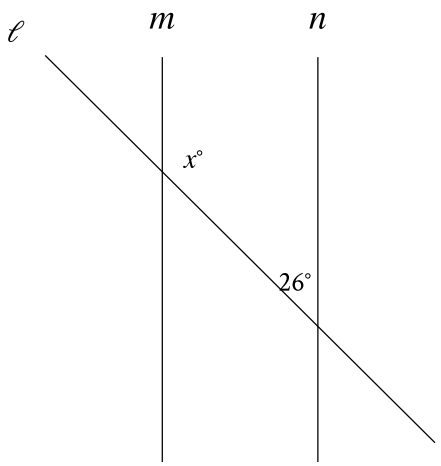


In triangle *RST* above, point *W* (not shown) lies on $\overline{RT}$. What is the value of $\cos(\angle RSW) - \sin(\angle WST)$?

Question ID afa3c48b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: afa3c48b



Note: Figure not drawn to scale.

In the figure shown, line m is parallel to line n. What is the value of x?

A. 13

B. 26

C. 52

D. 154

Question ID 9ec76b54

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 9ec76b54

A right triangle has legs with lengths of 28 centimeters and 20 centimeters. What is the length of this triangle's hypotenuse, in centimeters?

A. $8\sqrt{6}$

B. $4\sqrt{74}$

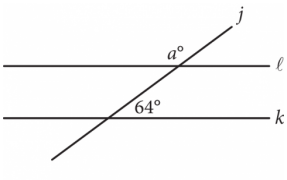
C. 48

D. $1{,}184$

Question ID 992f4e93

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 992f4e93



Note: Figure not drawn to scale.

In the figure above, lines ℓ and k are parallel.

What is the value of a ?

A. 26

B. 64

C. 116

D. 154

Question ID f1747a6a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: f1747a6a

In triangle ABC, the measure of angle B is 52° and the measure of angle C is 17°. What is the measure of angle A?

A. 21°

B. 35°

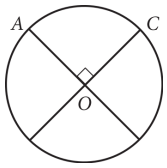
C. 69°

D. 111°

Question ID 23c5fcce

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 23c5fcce



The circle above with center O has a circumference of 36.

What is the length of minor arc $\overset{\frown}{AC}$?

A. 9

B. 12

C. 18

D. 36

Question ID f1c1e971

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: f1c1e971

The measure of angle R is $\frac{2\pi}{3}$ radians. The measure of angle T is $\frac{5\pi}{12}$ radians greater than the measure of angle R. What is the measure of angle T, in degrees?

A. 75

B. 120

C. 195

D. 390

Question ID 6ab30ce3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 6ab30ce3

Triangle ABC is similar to triangle DEF, where A corresponds to D and C corresponds to F. Angles C and F are right angles. If $\tan(A) = \sqrt{3}$ and $DF = 125$, what is the length of $\overline{DE}$?

A. $125\frac{\sqrt{3}}{3}$

B. $125\frac{\sqrt{3}}{2}$

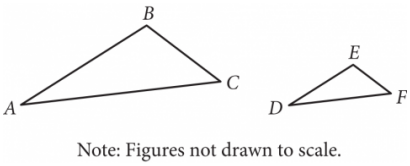
C. $125\sqrt{3}$

D. 250

Question ID 1c3d613c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 1c3d613c



Note: Figures not drawn to scale.

Triangle *ABC* and triangle *DEF* are shown. The relationship between the side lengths of the two triangles is such that $\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF} = 3$. If the measure of angle *BAC* is 20°, what is the measure, in degrees, of angle *EDF* ? (Disregard the degree symbol when gridding your answer.)

Question ID 2d521ca9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 2d521ca9

The measure of angle Z is 60°. What is the measure, in radians, of angle Z?

A. $\frac{1}{6}\pi$

B. $\frac{1}{3}\pi$

C. $\frac{2}{3}\pi$

D. 1π

Question ID 9acd101f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 9acd101f

The equation $x^2 + (y-1)^2 = 49$ represents circle A. Circle B is obtained by shifting circle A down 2 units in the *xy*-plane. Which of the following equations represents circle B?

A. $(x-2)^2 + (y-1)^2 = 49$

B. $x^2 + (y-3)^2 = 49$

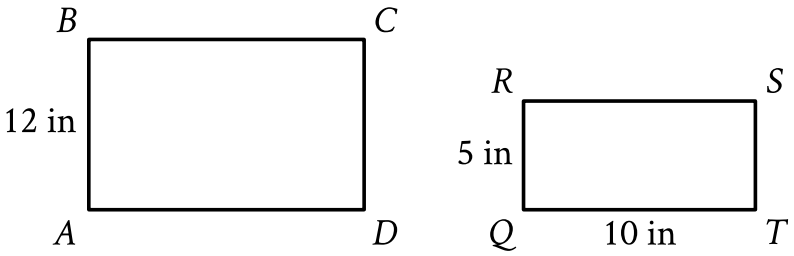
C. $(x+2)^2 + (y-1)^2 = 49$

D. $x^2 + (y+1)^2 = 49$

Question ID e9c5bfb2

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

ID: e9c5bfb2



Note: Figure not drawn to scale.

Rectangles $ABCD$ and $QRST$ shown are similar, where A, B, C, and D correspond to Q, R, S, and T, respectively. What is the length, in inches (in), of $\overline{AD}$?

A. 60

B. 24

C. 17

D. 10

Question ID 48fb6483

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 48fb6483

In triangle XYZ, angle Y is a right angle, point P lies on $\overline{XZ}$, and point Q lies on $\overline{YZ}$ such that $\overline{PQ}$ is parallel to $\overline{XY}$. If the measure of angle XZY is 63°, what is the measure, in degrees, of angle XPQ?

Question ID 244ff6c4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 244ff6c4

What is the value of $\tan \frac{92\pi}{3}$?

A. $-\sqrt{3}$

B. $-\frac{\sqrt{3}}{3}$

C. $\frac{\sqrt{3}}{3}$

D. $\sqrt{3}$

Question ID 010243e6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 010243e6

Triangles PQR and LMN are graphed in the *xy*-plane. Triangle PQR has vertices P, Q, and R at $(4, 5)$, $(4, 7)$, and $(6, 5)$, respectively. Triangle LMN has vertices L, M, and N at $(4, 5)$, $(4, 7 + k)$, and $(6 + k, 5)$, respectively, where k is a positive constant. If the measure of $\angle Q$ is t°, what is the measure of $\angle N$?

A. $(90 - (t - k))^\circ$

B. $(90 - (t + k))^\circ$

C. $(90 - t)^\circ$

D. $(90 + k)^\circ$

Question ID 08b7a3f5

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

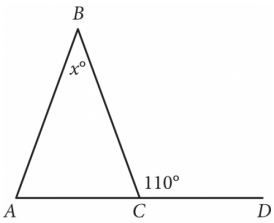
ID: 08b7a3f5

A triangular prism has a height of 8 centimeters (cm) and a volume of 216 cm^3. What is the area, in cm^2, 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 5733ce30

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 5733ce30



In the given figure, $\overline{AC}$ extends to point D. If the measure of $\angle BAC$ is equal to the measure of $\angle BCA$, what is the value of x ?

A. 110

B. 70

C. 55

D. 40

Question ID 0acfddb5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 0acfddb5

A circle has center G, and points M and N lie on the circle. Line segments MH and NH are tangent to the circle at points M and N, respectively. If the radius of the circle is 168 millimeters and the perimeter of quadrilateral $GMHN$ is $3{,}856$ millimeters, what is the distance, in millimeters, between points G and H?

A. 168

B. $1{,}752$

C. $1{,}760$

D. $1{,}768$

Question ID 7a8ad237

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 7a8ad237

Triangles ABC and DEF are congruent, where A corresponds to D, and B and E are right angles. The measure of angle A is 69°. What is the measure, in degrees, of angle F?

Question ID 50774285

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

ID: 50774285

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

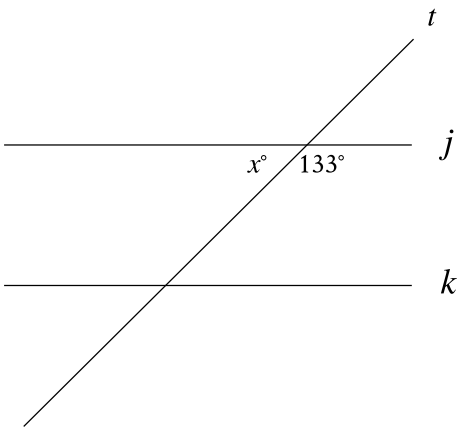
C. 144

D. 152

Question ID 3b4b5b1e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 3b4b5b1e



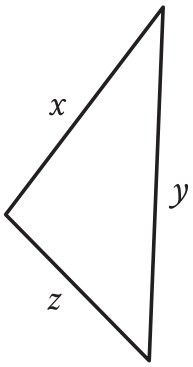
Note: Figure not drawn to scale.

In the figure, line j is parallel to line k. What is the value of x?

Question ID 29e9b28c

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

ID: 29e9b28c



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

Question ID 5b4757df

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 5b4757df

In triangle RST, angle T is a right angle, point L lies on $\overline{RS}$, point K lies on $\overline{ST}$, and $\overline{LK}$ is parallel to $\overline{RT}$. If the length of $\overline{RT}$ is 72 units, the length of $\overline{LK}$ is 24 units, and the area of triangle RST is 792 square units, what is the length of $\overline{KT}$, in units?

Question ID ca2235f6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: ca2235f6

A circle has center O, and points A and B lie on the circle. The measure of arc AB is $45°$ and the length of arc AB is 3 inches. What is the circumference, in inches, of the circle?

A. 3

B. 6

C. 9

D. 24

Question ID 856372ca

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 856372ca

In the *xy*-plane, a circle with radius 5 has center $(-8,6)$. Which of the following is an equation of the circle?

A. $(x-8)^2+(y+6)^2=25$

B. $(x+8)^2+(y-6)^2=25$

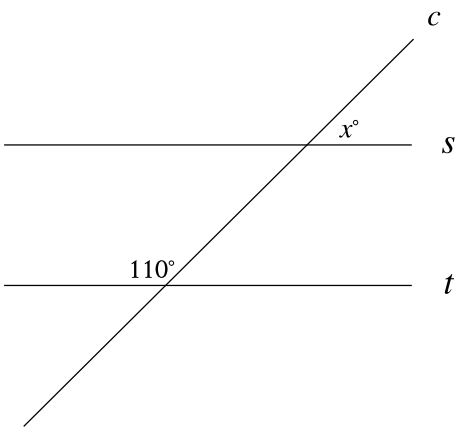
C. $(x-8)^2+(y+6)^2=5$

D. $(x+8)^2+(y-6)^2=5$

Question ID cf0d3050

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: cf0d3050



Note: Figure not drawn to scale.

In the figure shown, line c intersects parallel lines s and t. What is the value of x?

Question ID 0bb39de4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 0bb39de4

Triangles ABC and DEF are congruent, where A corresponds to D, and B and E are right angles. The measure of angle A is 18°. What is the measure of angle F?

A. 18°

B. 72°

C. 90°

D. 162°

Question ID 1be8b6b2

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

ID: 1be8b6b2

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 9c0a0eca

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

ID: 9c0a0eca

A triangle has a base length of 10 centimeters and a corresponding height of 70 centimeters. What is the area, in square centimeters, of the triangle?

A. 700

B. 350

C. 175

D. 80

Question ID 9d159400

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 9d159400

Which of the following equations represents a circle in the *xy*-plane that intersects the *y*-axis at exactly one point?

A. $(x-8)^2+(y-8)^2=16$

B. $(x-8)^2+(y-4)^2=16$

C. $(x-4)^2+(y-9)^2=16$

D. $x^2+(y-9)^2=16$

Question ID 379ffefb

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 379ffefb

A right triangle has legs with lengths of 11 centimeters and 9 centimeters. What is the length of this triangle's hypotenuse, in centimeters?

A. $\sqrt{40}$

B. $\sqrt{202}$

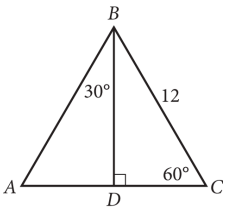
C. 20

D. 202

Question ID bf8d843e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: bf8d843e



In ΔABC above, what is the length of $\overline{AD}$?

A. 4

B. 6

C. $6\sqrt{2}$

D. $6\sqrt{3}$

Question ID 3453aafc

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

ID: 3453aafc

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. $1{,}224$

Question ID aef4fd8a

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

ID: aef4fd8a

The length of each side of a square is 94 centimeters (cm). Which expression gives the area, in cm^2, of the square?

A. $2 \cdot 94$

B. $2 \cdot 94 \cdot 94$

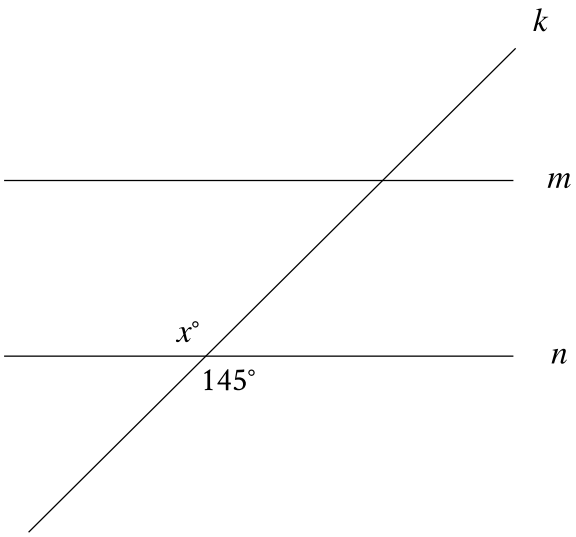
C. $4 \cdot 94$

D. $94 \cdot 94$

Question ID 43236565

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 43236565



Note: Figure not drawn to scale.

In the figure, line m is parallel to line n, and line k intersects both lines. Which of the following statements is true?

A. The value of x is less than 145.

B. The value of x is greater than 145.

C. The value of x is equal to 145.

D. The value of x cannot be determined.

Question ID 981275d2

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 981275d2

$(x-6)^2+(y+5)^2=16$

In the *xy*-plane, the graph of the equation above is a circle. Point *P* is on the circle and has coordinates $(10,-5)$. If $\overline{PQ}$ is a diameter of the circle, what are the coordinates of point *Q* ?

A. $(2,-5)$

B. $(6,-1)$

C. $(6,-5)$

D. $(6,-9)$

Question ID 89661424

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 89661424

A circle in the *xy*-plane has its center at $(-5, 2)$ and has a radius of 9. An equation of this circle is $x^2 + y^2 + ax + by + c = 0$, where a, b, and c are constants. What is the value of c?

Question ID 196e8e6e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 196e8e6e

In the *xy*-plane, a circle has center C with coordinates (h, k). Points A and B lie on the circle. Point A has coordinates $\left(h + 1, k + \sqrt{102}\right)$, and $\angle ACB$ is a right angle. What is the length of $\overline{AB}$?

A. $\sqrt{206}$

B. $2\sqrt{102}$

C. $103\sqrt{2}$

D. $103\sqrt{3}$

Question ID d03e29f1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: d03e29f1

$$(x-6)^2+(y-3)^2=81$$

The graph of the given equation in the *xy*-plane is a circle. What is the length of the radius of this circle?

A. 3

B. 6

C. 9

D. 81

Question ID 7c25b0dc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

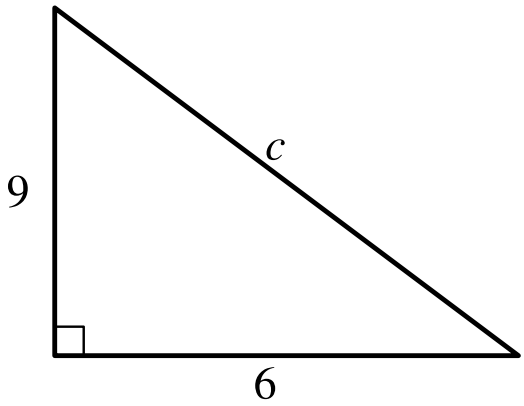
ID: 7c25b0dc

The length of a rectangle's diagonal is $3\sqrt{17}$, and the length of the rectangle's shorter side is 3. What is the length of the rectangle's longer side?

Question ID 36661021

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 36661021



Note: Figure not drawn to scale.

In the right triangle shown, which of the following is closest to the value of c?

A. 7.5

B. 10.8

C. 15

D. 58.5

Question ID e80d62c6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: e80d62c6

The equation $x^2 + (y - 2)^2 = 36$ represents circle A. Circle B is obtained by shifting circle A down 4 units in the *xy*-plane. Which of the following equations represents circle B?

A. $x^2 + (y + 2)^2 = 36$

B. $x^2 + (y - 6)^2 = 36$

C. $(x - 4)^2 + (y - 2)^2 = 36$

D. $(x + 4)^2 + (y - 2)^2 = 36$

Question ID f243c383

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

ID: f243c383

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

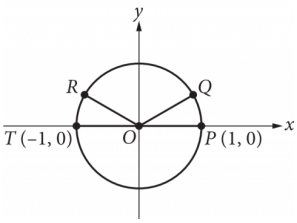
C. 9

D. 16

Question ID 95ba2d09

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 95ba2d09



In the *xy*-plane above, points *P*, *Q*, *R*, and *T* lie on the circle with center *O*. The degree measures of angles POQ and ROT are each 30°. What is the radian measure of angle QOR ?

A. $\frac{5}{6}\pi$

B. $\frac{3}{4}\pi$

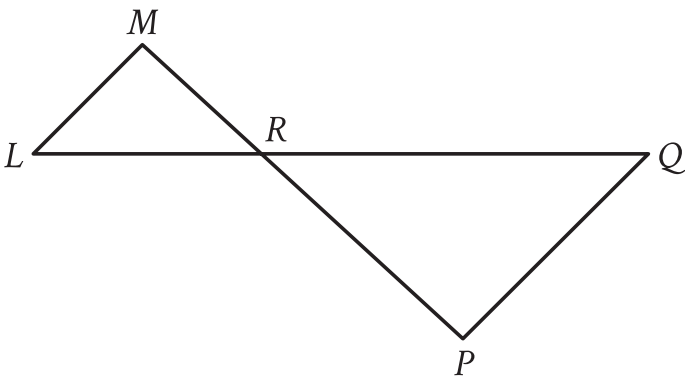
C. $\frac{2}{3}\pi$

D. $\frac{1}{3}\pi$

Question ID adae6543

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: adae6543



Note: Figure not drawn to scale.

In the figure, $\overline{LQ}$ intersects $\overline{MP}$ at point R, and $\overline{LM}$ is parallel to $\overline{PQ}$. The lengths of $\overline{MR}$, $\overline{LR}$, and $\overline{RP}$ are 6, 7, and 11, respectively. What is the length of $\overline{LQ}$?

A. $\frac{119}{11}$

B. $\frac{77}{6}$

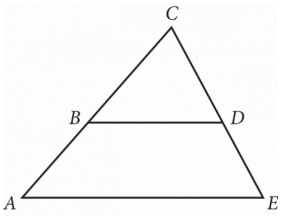
C. $\frac{113}{6}$

D. $\frac{119}{6}$

Question ID 6dd463ca

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 6dd463ca



Note: Figure not drawn to scale.

In the figure above, segments *AE* and *BD* are parallel. If angle *BDC* measures 58° and angle *ACE* measures 62°, what is the measure of angle *CAE* ?

A. 58°

B. 60°

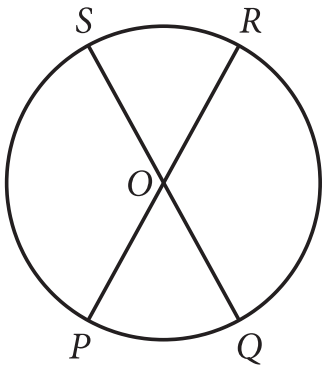
C. 62°

D. 120°

Question ID 0815a5af

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 0815a5af



Note: Figure not drawn to scale.

The circle shown has center O, circumference 144π, and diameters $\overline{PR}$ and $\overline{QS}$. The length of arc PS is twice the length of arc PQ. What is the length of arc QR?

A. 24π

B. 48π

C. 72π

D. 96π

Question ID f731d88b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: f731d88b

In convex pentagon $ABCDE$, segment AB is parallel to segment DE. The measure of angle B is 139 degrees, and the measure of angle D is 174 degrees. What is the measure, in degrees, of angle C?

Question ID 93de3f84

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

ID: 93de3f84

The volume of right circular cylinder A is 22 cubic centimeters. What is the volume, in cubic centimeters, of a right circular cylinder with twice the radius and half the height of cylinder A?

A. 11

B. 22

C. 44

D. 66

Question ID 16d66178

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 16d66178

Which of the following expressions is equivalent to $(\sin 24^\circ)(\cos 66^\circ) + (\cos 24^\circ)(\sin 66^\circ)$?

A. $2(\cos 66^\circ)(\sin 24^\circ)$

B. $2(\cos 66^\circ) + 2(\cos 24^\circ)$

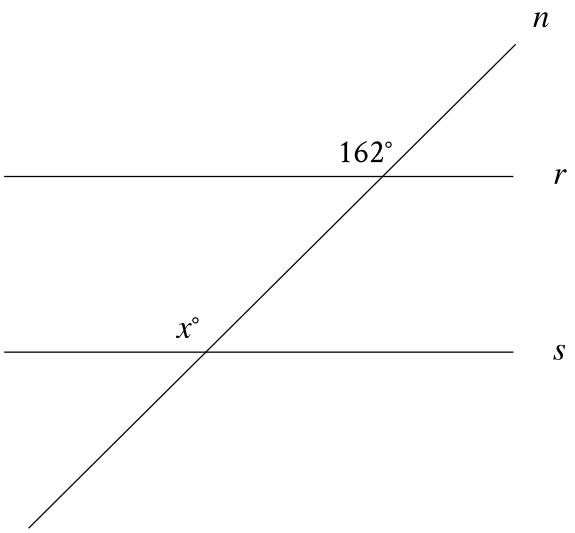
C. $(\cos 66^\circ)^2 + (\cos 24^\circ)^2$

D. $(\cos 66^\circ)^2 + (\sin 24^\circ)^2$

Question ID 5b918ebb

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 5b918ebb



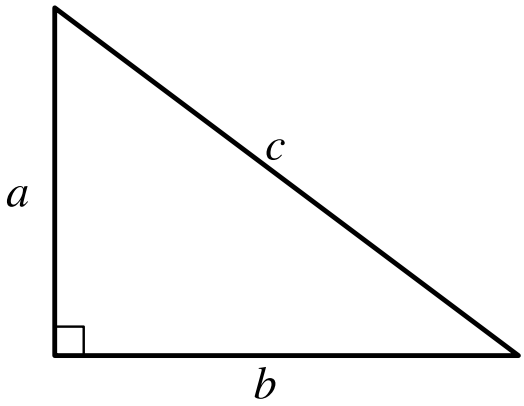
Note: Figure not drawn to scale.

In the figure, line n intersects lines r and s. Line r is parallel to line s. What is the value of x?

Question ID c9f8d1e9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: c9f8d1e9



Note: Figure not drawn to scale.

For the right triangle shown, $a = 4$ and $b = 5$. Which expression represents the value of c?

A. $4 + 5$

B. $\sqrt{(4)(5)}$

C. $\sqrt{4 + 5}$

D. $\sqrt{4^2 + 5^2}$

Question ID f60bb551

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

ID: f60bb551

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

Question ID d2047497

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

ID: d2047497

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

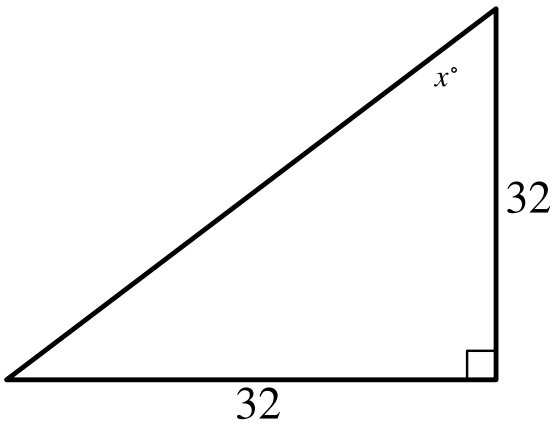
C. $119\ \text{cm}^2$

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

Question ID a71617d3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: a71617d3



Note: Figure not drawn to scale.

In the triangle shown, what is the value of x?

Question ID a5aee181

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: a5aee181

The length of a rectangle's diagonal is $5\sqrt{17}$, and the length of the rectangle's shorter side is 5. What is the length of the rectangle's longer side?

A. $\sqrt{17}$

B. 20

C. $15\sqrt{2}$

D. 400

Question ID 4efea6a3

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

ID: 4efea6a3

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?

Question ID fb58c0db

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: fb58c0db

Points *A* and *B* lie on a circle with radius 1, and arc $\overset{\frown}{AB}$ has length $\frac{\pi}{3}$. What fraction of the circumference of the circle is the length of arc $\overset{\frown}{AB}$?

Question ID ae041e52

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: ae041e52

A square is inscribed in a circle. The radius of the circle is $\frac{20\sqrt{2}}{2}$ inches. What is the side length, in inches, of the square?

A. 20

B. $\frac{20\sqrt{2}}{2}$

C. $20\sqrt{2}$

D. 40

Question ID c6dff223

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

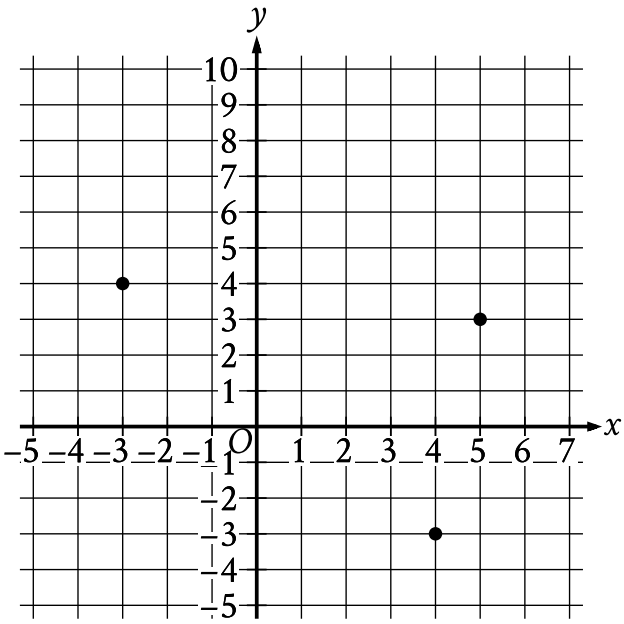
ID: c6dff223

Triangle ABC is similar to triangle DEF, where angle A corresponds to angle D and angles C and F are right angles. The length of $\overline{AB}$ is 2.9 times the length of $\overline{DE}$. If $\tan A = \frac{21}{20}$, what is the value of $\sin D$?

Question ID eb70d2d0

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

ID: eb70d2d0

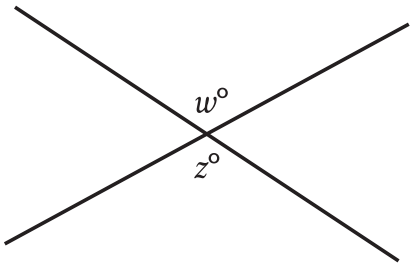


What is the area, in square units, of the triangle formed by connecting the three points shown?

Question ID 64d1f49f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 64d1f49f



Note: Figure not drawn to scale.

In the figure, two lines intersect at a point. If $w = 136$, what is the value of z?

A. 36

B. 44

C. 68

D. 136

Question ID f329442c

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

ID: f329442c

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 f39f88b7

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

ID: f39f88b7

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?

Question ID 92eb236a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 92eb236a

In a right triangle, the tangent of one of the two acute angles is $\frac{\sqrt{3}}{3}$. What is the tangent of the other acute angle?

A. $-\frac{\sqrt{3}}{3}$

B. $-\frac{3}{\sqrt{3}}$

C. $\frac{\sqrt{3}}{3}$

D. $\frac{3}{\sqrt{3}}$

Question ID ae33e0a1

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

ID: ae33e0a1

A right circular cylinder has a base diameter of 22 centimeters and a height of 6 centimeters. What is the volume, in cubic centimeters, of the cylinder?

A. 132π

B. 264π

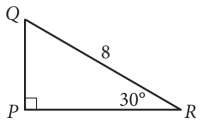
C. 726π

D. $2{,}904\pi$

Question ID 13d9a1c3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 13d9a1c3



In the right triangle shown above, what is the length of $\overline{PQ}$?

Question ID 76670c80

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

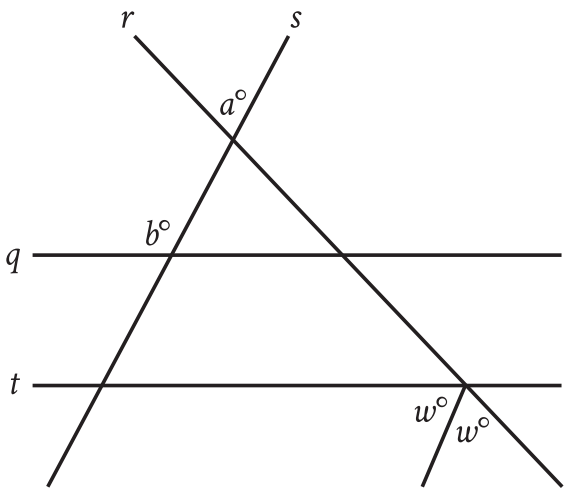
ID: 76670c80

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

Question ID 17912810

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 17912810



Note: Figure not drawn to scale.

In the figure, parallel lines q and t are intersected by lines r and s. If $a = 43$ and $b = 122$, what is the value of w?

Question ID 4420e500

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

ID: 4420e500

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

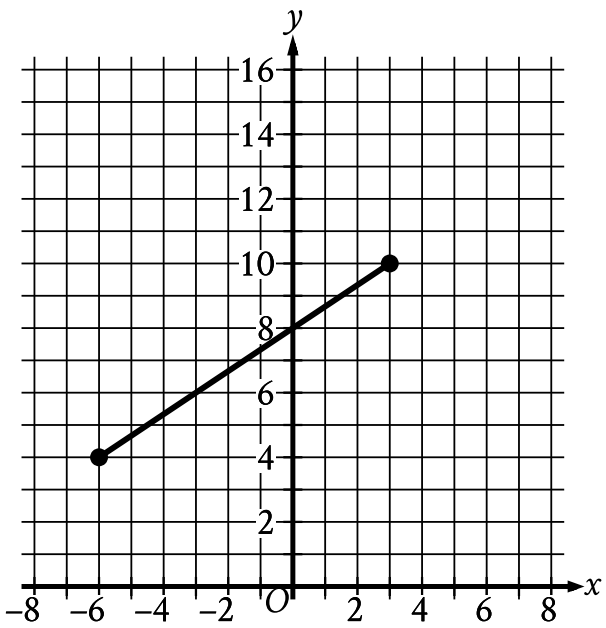
C. $12\ \text{cm}^2$

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

Question ID 099526fc

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

ID: 099526fc



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

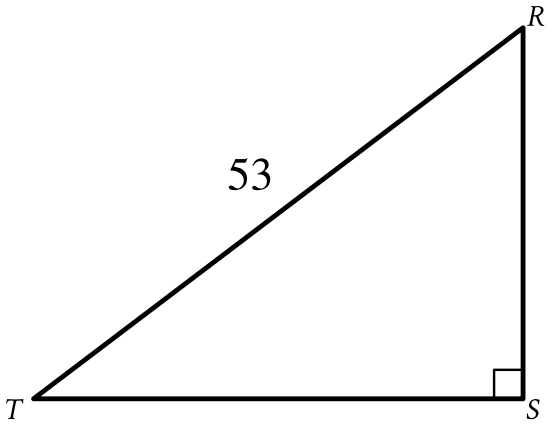
C. $3\sqrt{13}$

D. $18\sqrt{13}$

Question ID a67b9f88

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: a67b9f88



Note: Figure not drawn to scale.

In the triangle shown, $RS = \sqrt{105}$. What is the value of $\sin R$?

Question ID 165c30c4

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

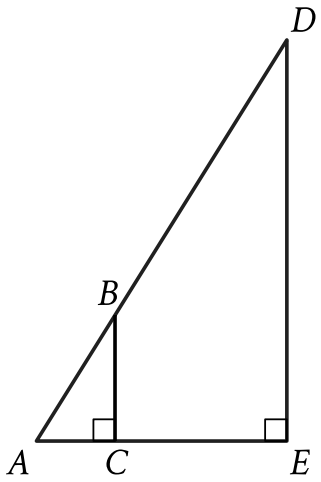
ID: 165c30c4

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

Question ID 694b7fce

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 694b7fce



Note: Figure not drawn to scale.

In the figure shown, $AB = \sqrt{34}$ units, $AC = 3$ units, and $CE = 21$ units. What is the area, in square units, of triangle ADE?

Question ID f7e626b2

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

ID: f7e626b2

The dimensions of a right rectangular prism are 4 inches by 5 inches by 6 inches. What is the surface area, in square inches, of the prism?

A. 30

B. 74

C. 120

D. 148

Question ID 2be01bd9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

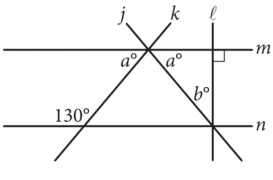
ID: 2be01bd9

Triangle ABC is similar to triangle DEF, where angle A corresponds to angle D and angle C corresponds to angle F. Angles C and F are right angles. If $\tan(A) = \frac{50}{7}$, what is the value of $\tan(E)$?

Question ID 3828f53d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 3828f53d



Note: Figure not drawn to scale.

In the figure above, lines *m* and *n* are parallel.
What is the value of *b* ?

A. 40

B. 50

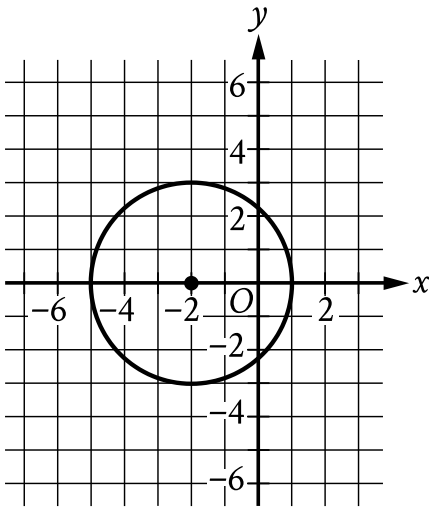
C. 65

D. 80

Question ID a38c0183

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: a38c0183



Circle *A* (shown) is defined by the equation $(x+2)^2+y^2=9$. Circle *B* (not shown) is the result of shifting circle *A* down 6 units and increasing the radius so that the radius of circle *B* is 2 times the radius of circle *A*. Which equation defines circle *B*?

A. $(x+2)^2+(y+6)^2=(4)(9)$

B. $2(x+2)^2+2(y+6)^2=9$

C. $(x+2)^2+(y-6)^2=(4)(9)$

D. $2(x+2)^2+2(y-6)^2=9$

Question ID 739f1bbc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 739f1bbc

In triangle ABC, $AB = 4{,}680$ millimeters (mm) and $BC = 4{,}680$ mm. Which statement is sufficient to prove that triangle ABC is equilateral?

A. $AC = 4{,}680$ mm

B. $AC = 468$ mm

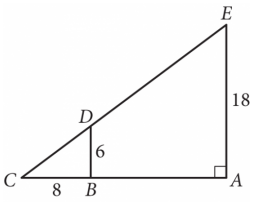
C. $AC = 46.8$ mm

D. $AC = 4.68$ mm

Question ID dba6a25a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: dba6a25a



In the figure above, $\overline{BD}$ is parallel to $\overline{AE}$.

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

Question ID c984f1a5

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

ID: c984f1a5

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 acd30391

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: acd30391

A circle in the *xy*-plane has equation $(x+3)^2+(y-1)^2=25$. Which of the following points does NOT lie in the interior of the circle?

A. $(-7, 3)$

B. $(-3, 1)$

C. $(0, 0)$

D. $(3, 2)$

Question ID 4ff7b652

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 4ff7b652

Right triangles LMN and PQR are similar, where L and M correspond to P and Q, respectively. Angle M has a measure of 53°. What is the measure of angle Q?

A. 37°

B. 53°

C. 127°

D. 143°

Question ID 8027db3f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

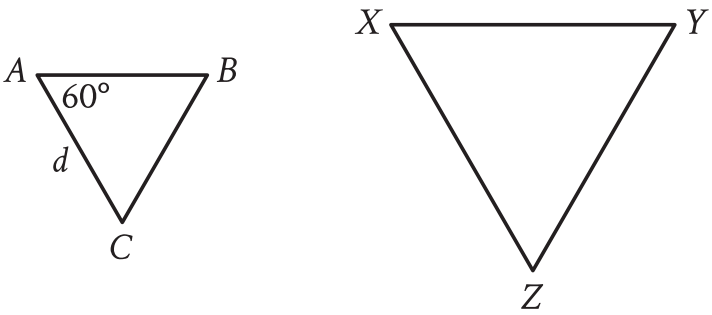
ID: 8027db3f

In triangle JKL, $\cos(K) = \frac{24}{51}$ and angle J is a right angle. What is the value of $\cos(L)$?

Question ID e0d2e21a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: e0d2e21a



Note: Figures not drawn to scale.

For the triangles shown, triangle ABC is dilated by a scale factor of 3 to obtain triangle XYZ, where $d = 16$. What is the measure, in degrees, of angle X?

A. 20

B. 57

C. 60

D. 63

Question ID cecbdeba

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

ID: cecbdeba

A right circular cylinder has a volume of 432 cubic centimeters. The area of the base of the cylinder is 24 square centimeters. What is the height, in centimeters, of the cylinder?

A. 18

B. 24

C. 216

D. $10{,}368$

Question ID 42b4493b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 42b4493b

In a right triangle, the measure of one of the acute angles is 51°. What is the measure, in degrees, of the other acute angle?

A. 6

B. 39

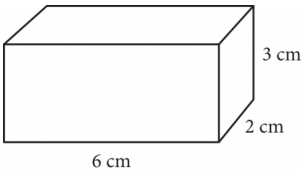
C. 49

D. 51

Question ID d683a9cc

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

ID: d683a9cc



The figure shows the lengths, in centimeters (cm), of the edges of a right rectangular prism. The volume V of a right rectangular prism is ℓwh, where ℓ is the length of the prism, w is the width of the prism, and h is the height of the prism. What is the volume, in cubic centimeters, of the prism?

A. 36

B. 24

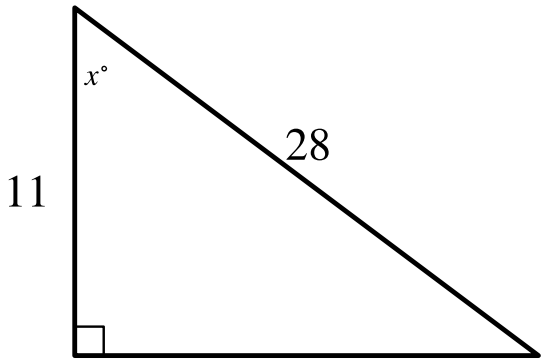
C. 12

D. 11

Question ID 1bf809b5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 1bf809b5



Note: Figure not drawn to scale.

In the triangle shown, what is the value of $\cos x^\circ$?

Question ID 14e7c1f4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 14e7c1f4

For two acute angles, $\angle Q$ and $\angle R$, $\cos(Q) = \sin(R)$. The measures, in degrees, of $\angle Q$ and $\angle R$ are $x + 61$ and $4x + 4$, respectively. What is the value of x?

A. 5

B. 19

C. 23

D. 29

Question ID a2e76b60

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

ID: a2e76b60

A cylindrical can containing pieces of fruit is filled to the top with syrup before being sealed. The base of the can has an area of $75\ cm^2$, and the height of the can is 10 cm. If $110\ cm^3$ of syrup is needed to fill the can to the top, which of the following is closest to the total volume of the pieces of fruit in the can?

A. $7.5\ cm^3$

B. $185\ cm^3$

C. $640\ cm^3$

D. $750\ cm^3$

Question ID 468613c0

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

ID: 468613c0

A triangle has a base length of 56 centimeters and a height of 112 centimeters. What is the area, in square centimeters, of the triangle?

A. 168

B. $1{,}568$

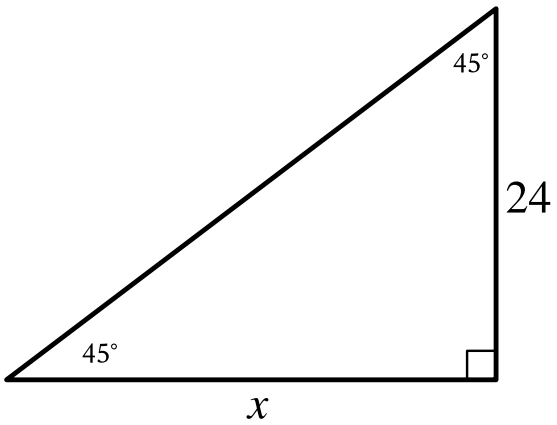
C. $3{,}136$

D. $6{,}272$

Question ID 145337bc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 145337bc



Note: Figure not drawn to scale.

In the triangle shown, what is the value of x?

A. 24

B. 45

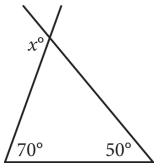
C. 48

D. 69

Question ID 36200a38

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 36200a38



In the figure above, two sides of a triangle are extended. What is the value of x ?

A. 110

B. 120

C. 130

D. 140

Question ID a490003a

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

ID: a490003a

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

Question ID 95ca2683

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 95ca2683

In triangle ABC, the measure of angle A is 54°, the measure of angle B is 90°, and the measure of angle C is $\left(\frac{k}{2}\right)^\circ$. What is the value of k?

A. 36

B. 45

C. 72

D. 108

Question ID 306264ab

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

ID: 306264ab

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

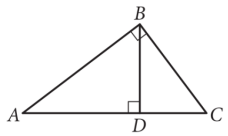
C. $24\sqrt{80}$

D. 24

Question ID 6a3fbec3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 6a3fbec3



Note: Figure not drawn to scale.

In the figure above, $BD = 6$ and $AD = 8$.

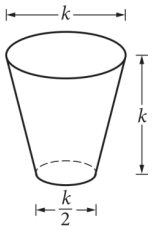
What is the length of $\overline{DC}$?

Question ID 37dde49f

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

ID: 37dde49f

Volume $= \frac{7\pi k^3}{48}$



The glass pictured above can hold a maximum volume of 473 cubic centimeters, which is approximately 16 fluid ounces. What is the value of *k*, in centimeters?

A. 2.52

B. 7.67

C. 7.79

D. 10.11

Question ID f67255ea

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: f67255ea

A line intersects two parallel lines, forming four acute angles and four obtuse angles. The measure of one of the acute angles is $(9x - 560)^\circ$. The sum of the measures of one of the acute angles and three of the obtuse angles is $(-18x + w)^\circ$. What is the value of w?

Question ID 02b02213

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

ID: 02b02213

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

Question ID 82c8325f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 82c8325f

A circle in the *xy*-plane has its center at $(-4, 5)$ and the point $(-8, 8)$ lies on the circle. Which equation represents this circle?

A. $(x-4)^2+(y+5)^2=5$

B. $(x+4)^2+(y-5)^2=5$

C. $(x-4)^2+(y+5)^2=25$

D. $(x+4)^2+(y-5)^2=25$

Question ID 459dd6c5

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

ID: 459dd6c5

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 6585d841

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 6585d841

$$x^2 + 14x + y^2 = 6y + 109$$

In the *xy*-plane, the graph of the given equation is a circle. What is the length of the circle's radius?

A. $\sqrt{109}$

B. $\sqrt{149}$

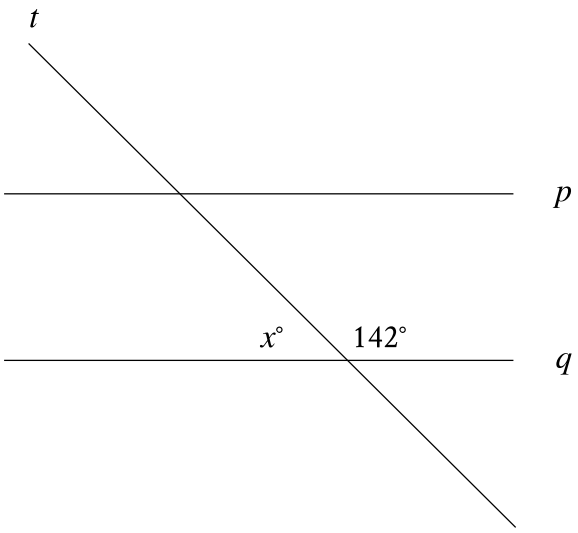
C. $\sqrt{167}$

D. $\sqrt{341}$

Question ID 3b44439b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 3b44439b



Note: Figure not drawn to scale.

In the figure, line p is parallel to line q, and line t intersects both lines. What is the value of $x + 142$?

A. 52

B. 90

C. 142

D. 180

Question ID 1efd7ef3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 1efd7ef3

What is the value of $\sin 42\pi$?

A. 0

B. $\frac{1}{2}$

C. $\frac{\sqrt{2}}{2}$

D. 1

Question ID 25da87f8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 25da87f8

A triangle with angle measures 30°, 60°, and 90° has a perimeter of $18+6\sqrt{3}$. What is the length of the longest side of the triangle?

Question ID 310c87fe

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

ID: 310c87fe

A cube has a surface area of 54 square meters. What is the volume, in cubic meters, of the cube?

A. 18

B. 27

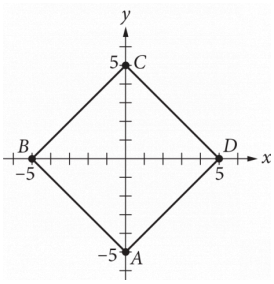
C. 36

D. 81

Question ID cf53cb56

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

ID: cf53cb56



In the *xy*-plane shown, square *ABCD* has its diagonals on the *x*- and *y*-axes. What is the area, in square units, of the square?

A. 20

B. 25

C. 50

D. 100

Question ID b96ff36e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

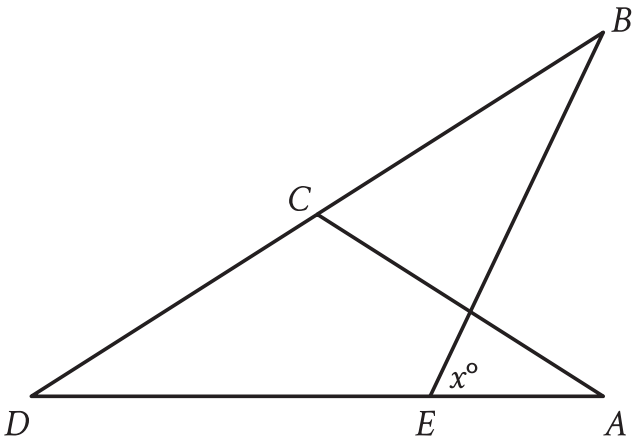
ID: b96ff36e

In the *xy*-plane, the graph of the equation $(x-3)^2+(y-5)^2=9$ is a circle. The point $(6, c)$, where c is a constant, lies on this circle. What is the value of c?

Question ID 6d99b141

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 6d99b141



Note: Figure not drawn to scale.

In the figure, $AC = CD$. The measure of angle EBC is 45°, and the measure of angle ACD is 104°. What is the value of x?

Question ID 9912e19f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 9912e19f

Triangles EFG and JKL are congruent, where E, F, and G correspond to J, K, and L, respectively. The measure of angle E is 45° and the measure of angle F is 20°. What is the measure of angle J?

A. 20°

B. 45°

C. 135°

D. 160°

Question ID 4b7bb316

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

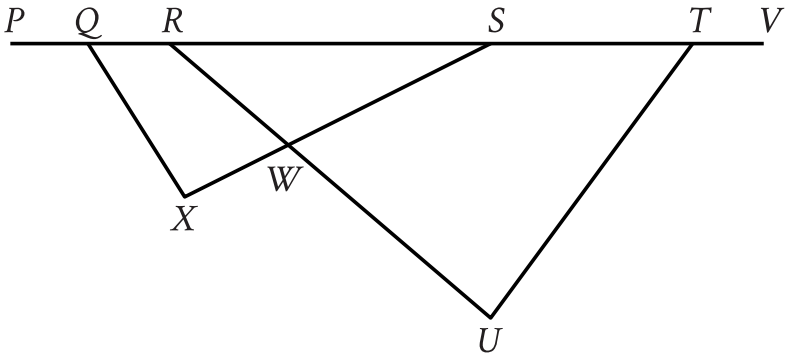
ID: 4b7bb316

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 e10d8313

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: e10d8313



Note: Figure not drawn to scale.

In the figure shown, points Q, R, S, and T lie on line segment PV, and line segment RU intersects line segment SX at point W. The measure of $\angle SQX$ is 48°, the measure of $\angle SXQ$ is 86°, the measure of $\angle SWU$ is 85°, and the measure of $\angle VTU$ is 162°. What is the measure, in degrees, of $\angle TUR$?

Question ID bcb66188

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: bcb66188

Triangle FGH is similar to triangle JKL, where angle F corresponds to angle J and angles G and K are right angles. If $\sin(F) = \frac{308}{317}$, what is the value of $\sin(J)$?

A. $\frac{75}{317}$

B. $\frac{308}{317}$

C. $\frac{317}{308}$

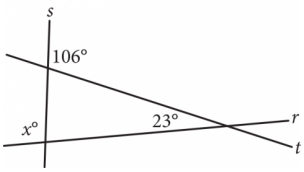
D. $\frac{317}{75}$

Question ID f88f27e5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: f88f27e5

Intersecting lines *r*, *s*, and *t* are shown below.

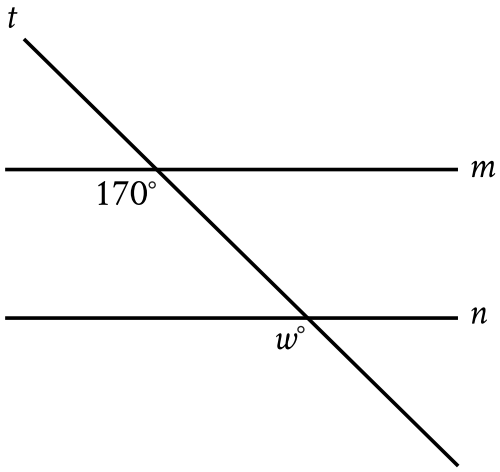


What is the value of *x* ?

Question ID 5207e508

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 5207e508



Note: Figure not drawn to scale.

In the figure, line m is parallel to line n. What is the value of w?

A. 17

B. 30

C. 70

D. 170

Question ID f67e4efc

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

ID: f67e4efc

A right circular cylinder has a volume of 45π. If the height of the cylinder is 5, what is the radius of the cylinder?

A. 3

B. 4.5

C. 9

D. 40

Question ID e5c57163

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

ID: e5c57163

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 33e29881

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 33e29881

In right triangle RST, the sum of the measures of angle R and angle S is 90 degrees. The value of $\sin(R)$ is $\frac{\sqrt{15}}{4}$. What is the value of $\cos(S)$?

A. $\frac{\sqrt{15}}{15}$

B. $\frac{\sqrt{15}}{4}$

C. $\frac{4\sqrt{15}}{15}$

D. $\sqrt{15}$

Question ID 93f48423

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

ID: 93f48423

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

Question ID 5252e606

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

ID: 5252e606

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. $12{,}100$

Question ID bb560789

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

ID: bb560789

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

Question ID 5afbdc8e

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

ID: 5afbdc8e

What is the length of one side of a square that has the same area as a circle with radius 2 ?

A. 2

B. $\sqrt{2\pi}$

C. $2\sqrt{\pi}$

D. 2π

Question ID 983412ea

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

ID: 983412ea

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 a4c0547f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: a4c0547f

In triangle XYZ, angle Z is a right angle and the length of $\overline{YZ}$ is 24 units. If $\tan X = \frac{12}{35}$, what is the perimeter, in units, of triangle XYZ?

A. 188

B. 168

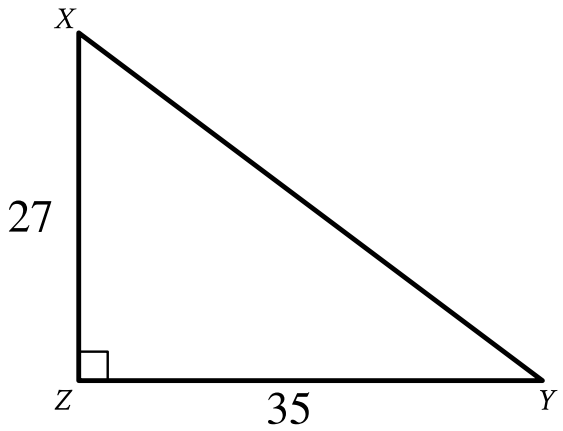
C. 84

D. 71

Question ID 659cb706

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 659cb706



Note: Figure not drawn to scale.

Triangle XYZ shown is a right triangle. Which of the following has the same value as $\sin X$?

A. $\tan X$

B. $\tan Y$

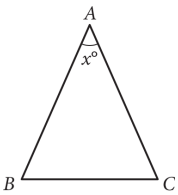
C. $\cos X$

D. $\cos Y$

Question ID c8d60e48

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: c8d60e48



In the given triangle, $AB = AC$ and $\angle ABC$ has a measure of $67°$. What is the value of x ?

A. 36

B. 46

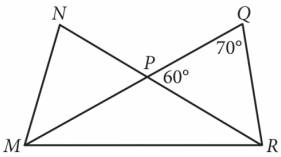
C. 58

D. 70

Question ID 947a3cde

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 947a3cde



In the figure above, $\overline{MQ}$ and $\overline{NR}$ intersect at point P, $NP = QP$, and $MP = PR$. What is the measure, in degrees, of $\angle QMR$? (Disregard the degree symbol when gridding your answer.)

Question ID 1f0b582e

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

ID: 1f0b582e

Square X has a side length of 12 centimeters. The perimeter of square Y is 2 times the perimeter of square X. What is the length, in centimeters, of one side of square Y?

A. 6

B. 10

C. 14

D. 24

Question ID deff8a2f

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

ID: deff8a2f

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

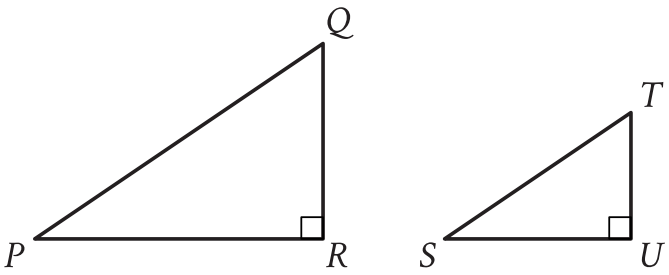
C. 600π

D. $2{,}400\pi$

Question ID d5f349b7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: d5f349b7



Note: Figures not drawn to scale.

Right triangles PQR and STU are similar, where P corresponds to S. If the measure of angle Q is 18°, what is the measure of angle S?

A. 18°

B. 72°

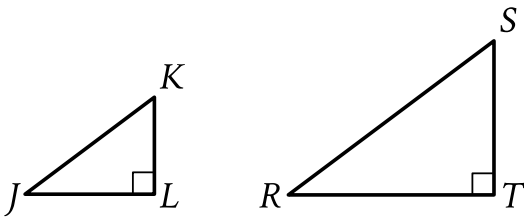
C. 82°

D. 162°

Question ID babd7461

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

ID: babd7461



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

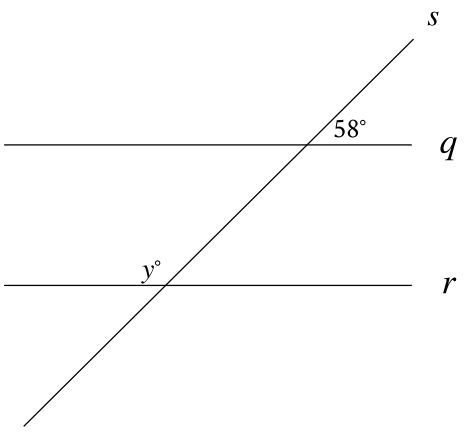
C. $2{,}916$

D. $8{,}100$

Question ID 686b5212

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 686b5212



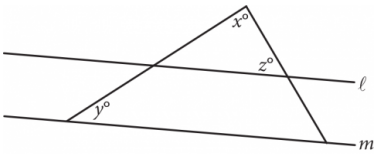
Note: Figure not drawn to scale.

In the figure, line q is parallel to line r, and both lines are intersected by line s. If $y = 2x + 8$, what is the value of x?

Question ID a6dbad6b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: a6dbad6b



Note: Figure not drawn to scale.

In the figure above, lines ℓ and m are parallel, $y = 20$, and $z = 60$. What is the value of x ?

A. 120

B. 100

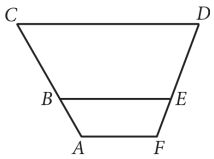
C. 90

D. 80

Question ID 81b664bc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 81b664bc



In the figure above, $\overline{AF}$, $\overline{BE}$, and $\overline{CD}$ are parallel. Points *B* and *E* lie on $\overline{AC}$ and $\overline{FD}$, respectively. If $AB = 9$, $BC = 18.5$, and $FE = 8.5$, what is the length of $\overline{ED}$, to the nearest tenth?

A. 16.8

B. 17.5

C. 18.4

D. 19.6

Question ID 59cb654c

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

ID: 59cb654c

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

A. 8

B. 16

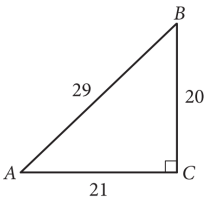
C. 64

D. 128

Question ID 902dc959

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 902dc959



In the figure above, what is the value of $\tan(A)$?

A. $\frac{20}{29}$

B. $\frac{21}{29}$

C. $\frac{20}{21}$

D. $\frac{21}{20}$

Question ID e86f0651

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

ID: e86f0651

A circle has a radius of 43 meters. What is the area, in square meters, of the circle?

A. $\frac{43\pi}{2}$

B. 43π

C. 86π

D. $1{,}849\pi$

Question ID 858fd1cf

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 858fd1cf

A circle in the *xy*-plane has its center at $(-1, 1)$. Line t is tangent to this circle at the point $(5, -4)$. Which of the following points also lies on line t?

A. $\left(0, \frac{6}{5}\right)$

B. $(4, 7)$

C. $(10, 2)$

D. $(11, 1)$

Question ID 9adb86ed

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: 9adb86ed

Points Q and R lie on a circle with center P. The radius of this circle is 9 inches. Triangle PQR has a perimeter of 31 inches. What is the length, in inches, of $\overline{QR}$?

A. $13\sqrt{2}$

B. 13

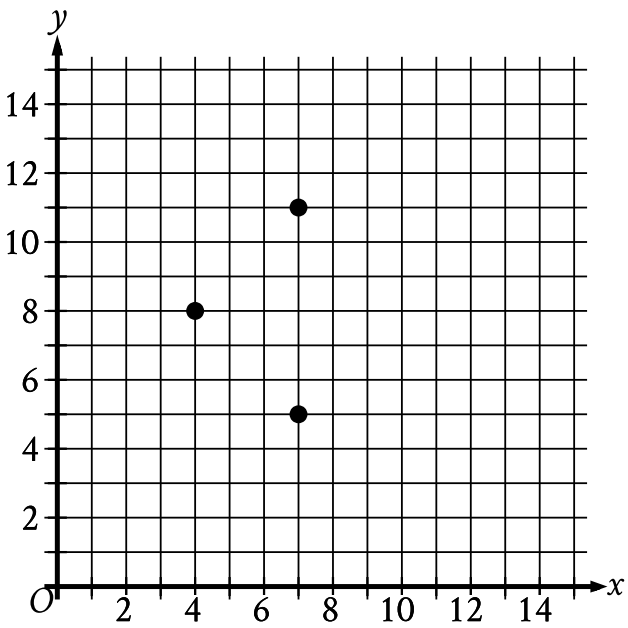
C. $9\sqrt{2}$

D. 9

Question ID 096c7ef5

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

ID: 096c7ef5



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?

A. 3

B. 6

C. 7

D. 9

Question ID ec5d4823

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

ID: ec5d4823

What is the volume, in cubic centimeters, of a right rectangular prism that has a length of 4 centimeters, a width of 9 centimeters, and a height of 10 centimeters?

Question ID 9966235e

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

ID: 9966235e

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 2b41a4c4

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

ID: 2b41a4c4

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?

Question ID a0369739

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: a0369739

In triangle ABC, the measure of angle B is 90° and $\overline{BD}$ is an altitude of the triangle. The length of $\overline{AB}$ is 15 and the length of $\overline{AC}$ is 23 greater than the length of $\overline{AB}$. What is the value of $\frac{BC}{BD}$?

A. $\frac{15}{38}$

B. $\frac{15}{23}$

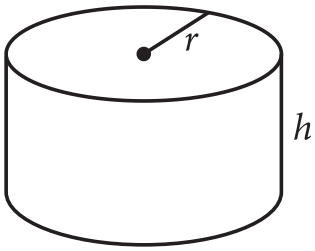
C. $\frac{23}{15}$

D. $\frac{38}{15}$

Question ID a07ed090

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

ID: a07ed090



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 cbe8ca31

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: cbe8ca31

In $\triangle XYZ$, the measure of $\angle X$ is 24° and the measure of $\angle Y$ is 98°. What is the measure of $\angle Z$?

A. 58°

B. 74°

C. 122°

D. 212°

Question ID 3b931fb0

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

ID: 3b931fb0

A right circular cylinder has a volume of 377 cubic centimeters. The area of the base of the cylinder is 13 square centimeters. What is the height, in centimeters, of the cylinder?

Question ID 94364a79

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 94364a79

Two nearby trees are perpendicular to the ground, which is flat. One of these trees is 10 feet tall and has a shadow that is 5 feet long. At the same time, the shadow of the other tree is 2 feet long. How tall, in feet, is the other tree?

A. 3

B. 4

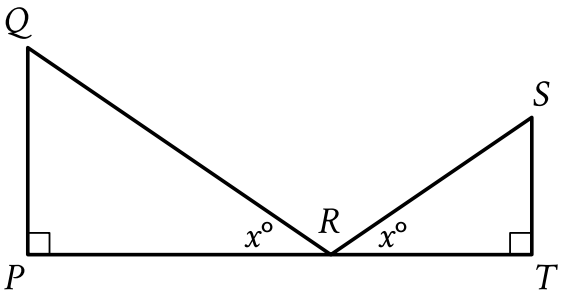
C. 8

D. 27

Question ID 51f26ce8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 51f26ce8



Note: Figure not drawn to scale.

$\triangle QPR$ is similar to $\triangle STR$. The lengths represented by $\overline{ST}$, $\overline{QP}$, $\overline{PR}$, and $\overline{QR}$ in the figure are 14, 15, 20, and 25, respectively. What is the length of $\overline{SR}$?

A. $\frac{350}{15}$

B. $\frac{350}{20}$

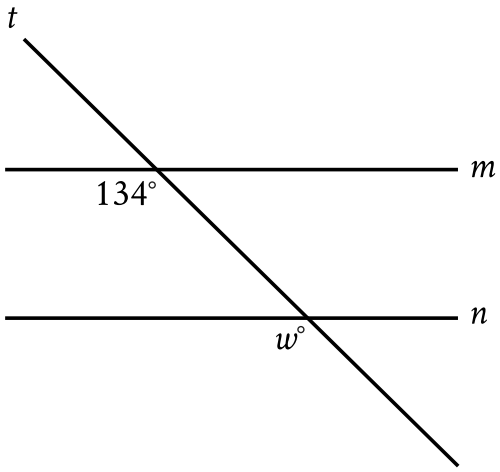
C. $\frac{210}{20}$

D. $\frac{210}{25}$

Question ID c24e1bda

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: c24e1bda



Note: Figure not drawn to scale.

In the figure, line m is parallel to line n. What is the value of w?

A. 13

B. 34

C. 66

D. 134

Question ID 055aafe7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 055aafe7

Triangle ABC is similar to triangle XYZ, where A, B, and C correspond to X, Y, and Z, respectively. In triangle ABC, the length of $\overline{AB}$ is 170 and the length of $\overline{BC}$ is 850. In triangle XYZ, the length of $\overline{YZ}$ is 60. What is the length of $\overline{XY}$?

A. 204

B. 182

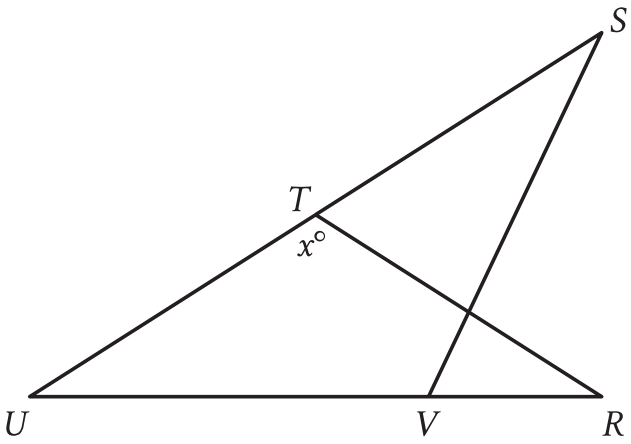
C. 60

D. 12

Question ID 2d2cb85e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 2d2cb85e



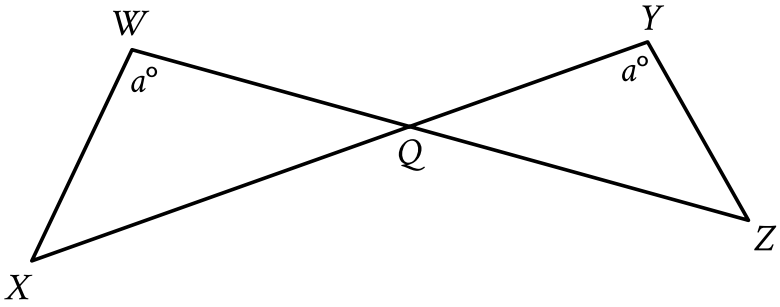
Note: Figure not drawn to scale.

In the figure, $RT = TU$, the measure of angle VST is 29°, and the measure of angle RVS is 41°. What is the value of x?

Question ID 345cc36a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 345cc36a



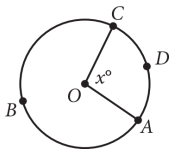
Note: Figure not drawn to scale.

In the figure shown, $\overline{WZ}$ and $\overline{XY}$ intersect at point Q. $YQ = 63$, $WQ = 70$, $WX = 60$, and $XQ = 120$. What is the length of $\overline{YZ}$?

Question ID c8345903

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	

ID: c8345903



The circle above has center O, the length of arc $\overset{\frown}{ADC}$ is 5π, and $x = 100$. What is the length of arc $\overset{\frown}{ABC}$?

A. 9π

B. 13π

C. 18π

D. $\frac{13}{2}\pi$

Question ID 901c3215

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	

ID: 901c3215

In triangles ABC and DEF, angles B and E each have measure 27° and angles C and F each have measure 41°. Which additional piece of information is sufficient to determine whether triangle ABC is congruent to triangle DEF?

A. The measure of angle A

B. The length of side AB

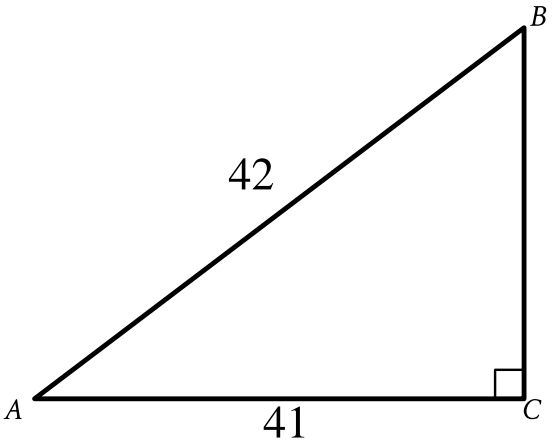
C. The lengths of sides BC and EF

D. No additional information is necessary.

Question ID 2bddbc1b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: 2bddbc1b



Note: Figure not drawn to scale.

What is the value of $\cos A$ in the triangle shown?

A. $\frac{42}{41}$

B. $\frac{41}{42}$

C. $\frac{1}{42}$

D. $\frac{1}{41}$

Question ID 85f1892d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

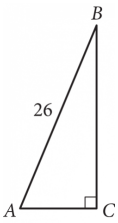
ID: 85f1892d

In triangle XYZ, angle Y is a right angle, the measure of angle Z is 33°, and the length of $\overline{YZ}$ is 26 units. If the area, in square units, of triangle XYZ can be represented by the expression $k \tan 33^\circ$, where k is a constant, what is the value of k?

Question ID bd87bc09

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	

ID: bd87bc09



Triangle ABC above is a right triangle, and $\sin(B) = \frac{5}{13}$.

What is the length of side $\overline{BC}$?