Question ID f67e4efc

P´PLEUM

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

ID: f67e4efc

2.1

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

$\pi r^2(5) = 45\pi$

$r^2 = 9$

$r = 3, -3$

Question ID 5afbdc8e

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

ID: 5afbdc8e

2.2

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

$x^2 = \pi 2^2$

$x = \sqrt{\pi 4}$

$= 2\sqrt{\pi}$ // , $-2\sqrt{\pi}$

Question ID ec5d4823

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

ID: ec5d4823

2.3

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?

$4(9)(10) = 360$ //

Question ID 151eda3c

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

ID: 151eda3c

2.4

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. $31{,}250\pi$

$r_B = 16(1.25)$

$= 20$

$V_B = \pi 20^2 (50)$

$= 20{,}000\pi$ //

Question ID 38517165

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

ID: 38517165

2.5

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

$2\pi r = 31\pi$

$2r = 31$

หา r แล้วค่อยคูณ 2 ทีหลังว่า

Question ID 08b7a3f5

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

ID: 08b7a3f5

2.6

A triangular prism has a height of 8 centimeters (cm) and a volume of $216\ \text{cm}^3$. 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.)

$8B = 216$

$B = 27$

Question ID a2e76b60

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

ID: a2e76b60

2.7

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. $750\ cm^3$

$V_T = V_{Fruit} + V_{syrup}$

$75(10) = V_{Fruit} + 110$

$V_{Fruit} = 640$

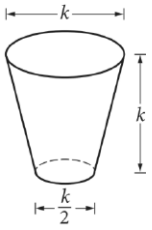
Question ID 37dde49f

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

ID: 37dde49f

2.8

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

$$\cancel{7}\left(\frac{22}{\cancel{7}}\right)\frac{k^3}{48} = 473$$

$$k^3 = 1{,}032$$

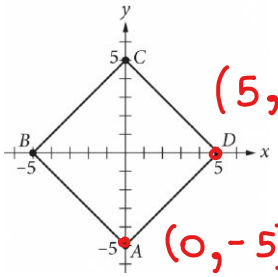
$$k = 10.11$$

Question ID cf53cb56

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

ID: cf53cb56

2.9



(5,0)

(0,−5)

$D = \sqrt{5^2 + 5^2}$

$= \sqrt{50}$

$D = \sqrt{50}^2 = 50$ //

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

Matrix

ช้ากว่า

$$\begin{array}{c|cc|c} & 5 & 0 & \\ 0 & 0 & -5 & -25 \\ 25 & -5 & 0 & 0 \\ 0 & 0 & 5 & -25 \\ 25 & 5 & 0 & 0 \\ 50 & & & -50 \end{array}$$

$\frac{1}{2}\left|50 - (-50)\right| = 50$ //

Question ID d621cffb

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

ID: d621cffb

2.10

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

$\frac{4}{3}\pi\left(\frac{17}{5}\right)^3 = \frac{19{,}652}{375}\pi$ //

Question ID 3b931fb0

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

ID: 3b931fb0

2.11

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?

$13h = 377$

$h = 29$ //

Question ID cecbdeba

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

ID: cecbdeba

2.12

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. $10{,}368$

$24h = 432$

$h = 18$ //

$(y+2)^2+(y+6)^2=(4)(9)$

$(y+2)^2+2(y+6)^2=9$

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

$(y+2)^2+2(y-6)^2=9$

Question ID e0874bc2

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

ID: e0874bc2

2.13

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 $\overline{XY}$?

$\frac{37}{333} = \frac{18}{X}$

$X = 162$ //

A. 2

B. 18

C. 55

D. 162