#1
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?

#2
ID: f67e4efc

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

A) 3

B) 4.5

C) 9

D) 40

#3
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) 2

#4
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

#5
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) $1{,}849\pi$

#6
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?
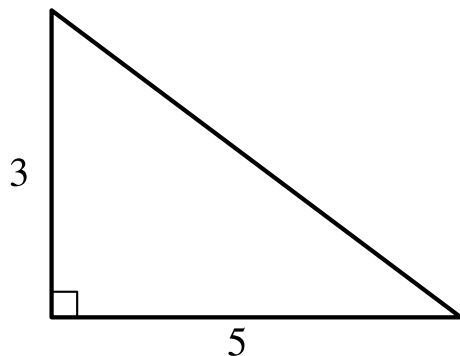
#7   ID: 3b931fb0

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?

#8   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?

#9   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

#10   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

#11

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

#12

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) 16000

B) 20000

C) 25000

D) 31250

#13

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

#14

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

	Perimeter
Triangle TUV	37
Triangle XYZ	333

What is the length of XY?

A) 2

B) 18

C) 55

D) 162

#15

ID: 38517165

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

#16

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.)

#17

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) $2{,}904\pi$

#18

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?

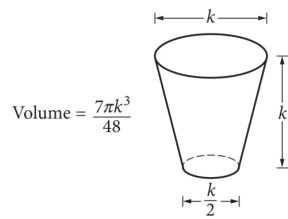A) 18

B) 24

C) 216

D) $10{,}368$

#19

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, and the height of the can is 10 cm. If 110 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

B) 185

C) 640

D) 750

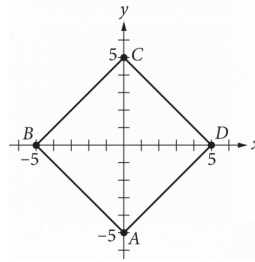**#20** ID: 37dde49f

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

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

#21 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