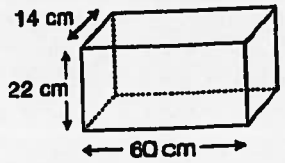
Date: _____

Chapter 9 Review

9.1 Volume of Prisms and Pyramids, textbook pages 364–371

1. Find the volume of the prism. If necessary, round your answers to one decimal place. Use $\pi = 3.14$.

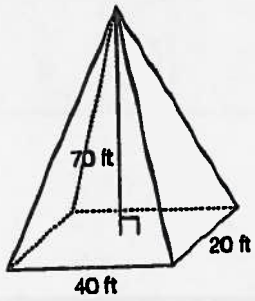


V = _____ × _____ × _____

=

=

2. Find the volume of the pyramid.



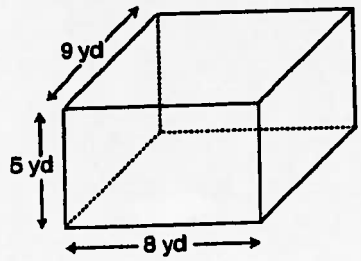
V = ____ area of ____ × _____

=

=

9.2 Surface Area of Prisms and Pyramids, textbook pages 372–380

3. Find the surface area of the prism.



Two faces have dimensions ____ cm by ____ cm.

Area = ____ × _____

= _____

Two faces have dimensions ____ cm by ____ cm.

Area = ____ × _____

= _____

Two faces have dimensions ____ cm by ____ cm.

Area = ____ × _____

= _____

Surface Area = 2(____) + 2(____) + 2(____)

= _____

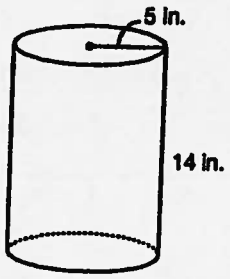
The surface area of the prism is ____ yd^2.

Date: _____

9.3 Surface Area and Volume of Cylinders, textbook pages 381–390

Chapter 9 Review

4. Find the surface area and volume of the cylinder.



Circular Top

SA = _____

Side

SA = _____ × _____

Cylinder

SA =

Volume

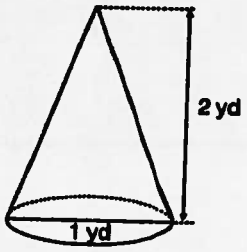
V = _____ r^2 _____

=

=

5. Find the volume of each object.

a)

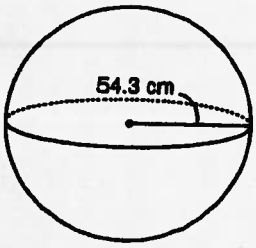


V = _____ r^2 ___

=

=

b)



V = _____ r^3

=

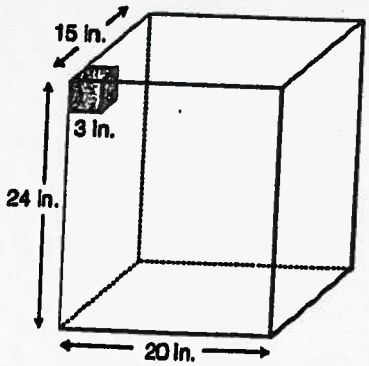
=

9.5 Solve Problems Involving Surface Area and Volume, textbook pages 398–405

6. The composite shape shown below is a rectangular prism with a cube removed from one corner.

a) Find the surface area of the composite shape.

b) Find the volume of the composite shape.



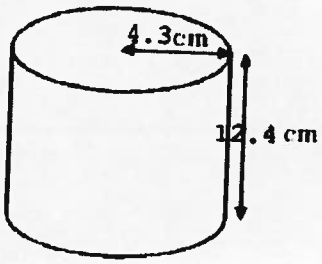
Textbook - page 408 #'s 1,2,5

Surface Area of 3-D Figures

QUIZ

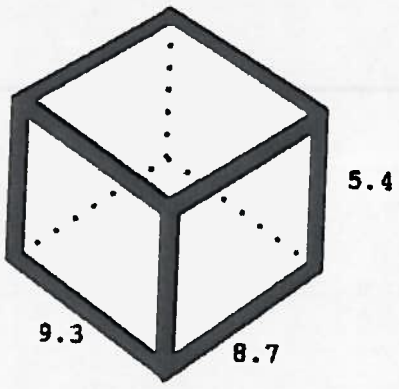
1. To the nearest square centimetre, what is the surface area of this cylinder?

S.A.= $2\pi r^2 + 2\pi rh$

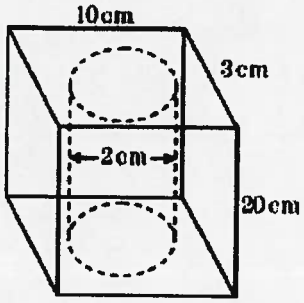


2. Calculate the surface area of this rectangular prism if all measurements are given in centimetres. Answer accurately to the nearest square centimetre.

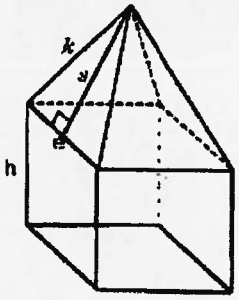
Area of Rectangle = Length x Width



3. A hole 2 cm in diameter is drilled out of a solid block of metal 10 cm wide, 20 cm long, and 3 cm thick so that the block will fit a machine part. What is the new surface area of the block, correct to the nearest square centimetre?



4. The Shimkees bought a new house and they have decided to reshingle the roof and paint the house. They know that $h = 2.40$ m, $e = 24.0$ m (the house has a square base), $s = 12.5$ m and $k = 13.0$ m. One bundle of shingles covers 2.25 m^2 and one 4-L can of paint covers 35.0 m^2.



(a) How many bundles of shingles do they need to cover the roof?
(b) How many cans of paint do they need to paint the four walls?
(c) If one can of paint costs $27.45 find the cost of the paint?
(d) If a bundle of shingles costs $34.56, find the cost of the shingles?

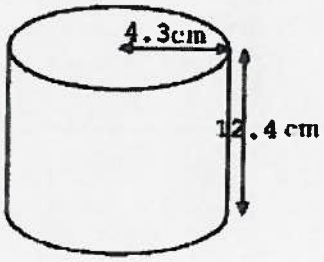
Answers

Surface Area of 3-D Figures

QUIZ

1. To the nearest square centimetre, what is the surface area of this cylinder?

S.A.= $2\pi r^2 + 2\pi rh$



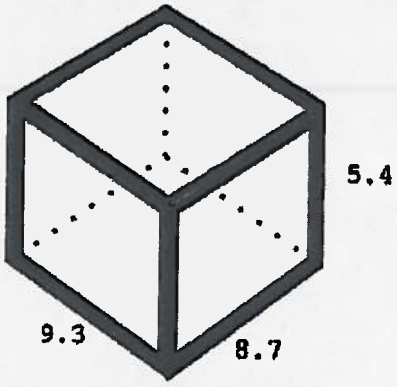
116.12 + 334.85

451 cm^2

3/2

2. Calculate the surface area of this rectangular prism if all measurements are given in centimetres. Answer accurately to the nearest square centimetre.

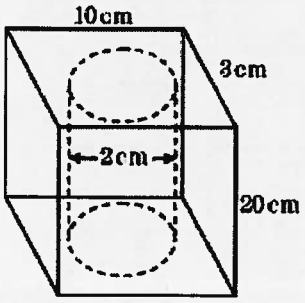
Area of Rectangle = Length x Width



3/2

356 cm^2

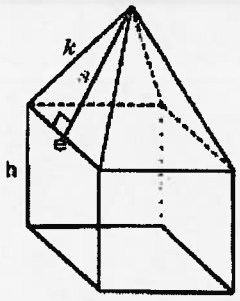
3. A hole 2 cm in diameter is drilled out of a solid block of metal 10 cm wide, 20 cm long, and 3 cm thick so that the block will fit a machine part. What is the new surface area of the block, correct to the nearest square centimetre?



580 − 131.88 = 448 cm²

3

4. The Shimkees bought a new house and they have decided to reshingle the roof and paint the house. They know that $h = 2.40$ m, $e = 24.0$ m (the house has a square base), $s = 12.5$ m and $k = 13.0$ m. One bundle of shingles covers 2.25 m² and one 4-L can of paint covers 35.0 m².



a) Roof $\frac{24 \times 12.5}{2} = \frac{300}{2} = 150 \times 4 = 600 m^2$

b) $L \times W \times 4$
$24 \times 2.4 \times 4 = 230.4 \div 35 = 6.6$ or 7 cans

(a) How many bundles of shingles do they need to cover the roof? → 267 Bundles
(b) How many cans of paint do they need to paint the four walls? → 7 cans
(c) If one can of paint costs $27.45 find the cost of the paint? → 192.15
(d) If a bundle of shingles costs $34.56, find the cost of the shingles? → 9227.52

4