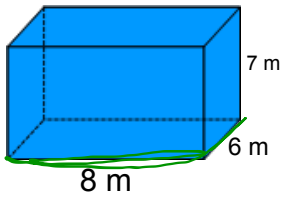
Warm Up
May 18, 2016

Find the volume (Show all work)

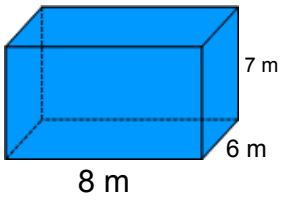


$A_{base} = L \times w$
$= 6\text{ m} \times 8\text{m}$
$= 48\text{ m}^2$

$\text{Volume} = A_{base} \times h$
$= 48\text{m}^2 \times 7\text{m}$
$= 336\text{m}^3$

solution

Find the volume (Show all work)



Area of base = L x W

= 6m x 8 m

= 48 m^2

V = Area of base x height

= 48 m^2 x 7 m

= 336 m^3

pg 197

1. In Connect, the area of the base is $30 cm^2$, so if the volume is $210 cm^3$ then the height must be 7 cm

$V = A_{base} \times h$

$210 = 30 \times \underline{\quad 7 \quad}$

2. No, it does not matter which face you use as the base.

Draw sketches for each

4 a) $Vol = A_{base} \times h$

$= 40 \times 3$

$= 120 cm^3$

b) $Vol = A_{base} \times h$

$= 81 \times 9$

$= 729 cm^3$

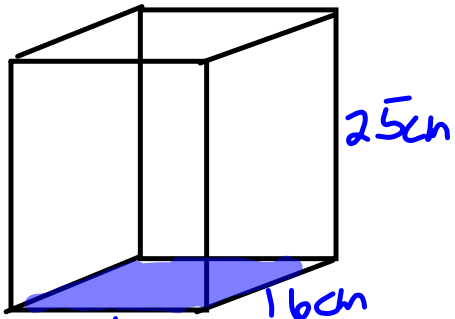
c) $Vol = A_b \times h$

$= 200 \times 30$

$= 6000 cm^3$

5.

a)



b)

$A_{base} = l \times w$
$= 28 \times 16$
$= 448 cm^2$

$V = A_b \times h$
$= 448 \times 25$
$= 112 \times 4 \times 25$
$= 11\,200 cm^3$

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6 Sketches

a) $A_{base} = l \times w$
$= 5 \times 8$
$= 40 cm^2$

$V = A_b \times h$
$= 40 \times 3$
$= 120 cm^3$

B $A_{base} = l \times w$
$= 8 \times 3$
$= 24 cm^2$

$V = A_b \times h$
$= 24 \times 5$
$= 120 cm^3$

C $A_{base} = l \times w$
$= 5 \times 3$
$= 15 cm^2$

$V = A_b \times h$
$= 15 \times 8$
$= 120 cm^3$

b) The volume is the same for each

c) No the volume doesn't change when you change the position, the dimensions are still 3, 5 and 8 cm

7. Sketches

a) $A_b = l \times w$
$= 5 \times 3$
$= 15 cm^2$

$V = A_b \times h$
$= 15 \times 4.5$
$= 67.5 cm^3$

b) $A_b = l \times w$
$= 7.5 \times 3.2$
$= 24 cm^2$

$V = A_b \times h$
$= 24 \times 4$
$= 96 cm^3$

c) $A_b = l \times w$
$= 3.5 \times 2.4$
$= 8.4 cm^2$

$V = A_b \times h$
$= 8.4 \times 3$
$= 25.2 cm^3$

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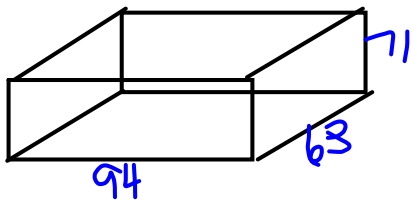
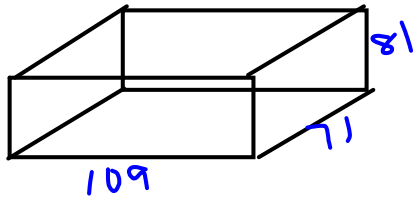
9. Rick



$A_{base} = l \times w$
$= 94 \times 63$
$= 5922 cm^2$

$Vol = A_b \times h$
$= 5922 \times 71$
$= 420\,462 cm^3$

Susan



$A_b = l \times w$
$= 109 \times 71$
$= 7739 cm^2$

$Vol = A_b \times h$
$= 7739 \times 81$
$= 626\,859 cm^3$

b) $400 \times 1 = 400$

$400 \times 2 = 800$

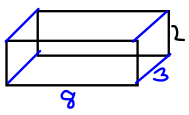
$400 \times 1.5 = 600$

You would multiply the volume of Rick's by about 1.5 to get Susan's volume

Go Back to Page 186 and instead of finding SA use the dimensions to find VOLUME

Page 186-187 #5, #6, #7, #13

5.

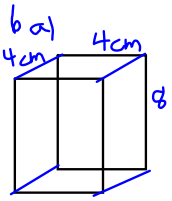


top/bottom

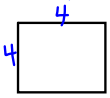
A = l x w
= 8 cm x 3 cm
= 24 cm²

v= area of bottom X H
= 24 cm² x 2
= 48 cm³

6 a)



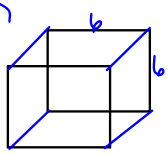
Top and Bottom

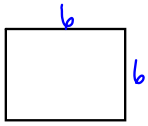


A = lxw
= 4x4
= 16cm²

v= area of bottom X H
= 16cm² x 8 cm
= 128 cm³

b)





A = lxw
= 6x6
= 36cm²

v= area of bottom X H
= 36 cm² x 6 cm
= 216 cm³

7a) A = l x w
= 4 m x 3 m
= 12 m²

v= area of bottom X H
=12 m² x 10 m
= 120 m³

7b A = l x w
= 5 cm x 3 cm
= 15 cm²

v= area of bottom X H
=15 cm² x 8 cm
= 120 cm³

13) Green

A = l x w
= 2 cm x 6 cm
= 12 cm²

v= area of bottom X H
=12 cm² x 4 cm
= 48 cm³

Purple

A = l x w
= 1 cm x 8 cm
= 8 cm²

v= area of bottom X H
=8 cm² x 3 cm
= 24 cm³

Blue

A = l x w
= 3 cm x 5 cm
= 15 cm²

v= area of bottom X H
=15 cm² x 4 cm
= 60 cm³

Finding Volume of Triangular Prisms

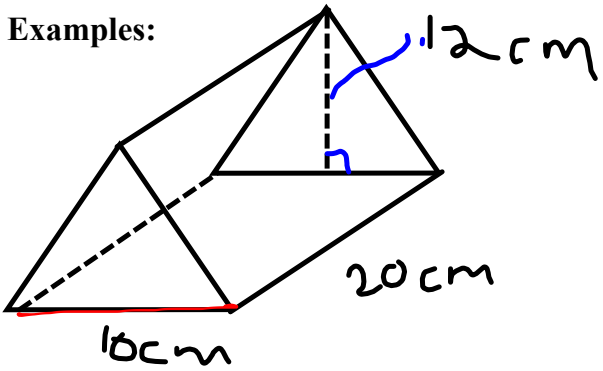
You can find the volume of any prism using the formula we stated yesterday.

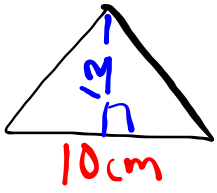
Volume = Area of base x height

First, determine the shape of the base, then find its area, finally multiply by the height of the prism.

Base shape of a triangular prism is ALWAYS a _____

Examples:





$A_\Delta = \frac{b \times h}{2}$

$= \frac{10cm \times 12cm}{2}$

$= \frac{120cm^2}{2}$

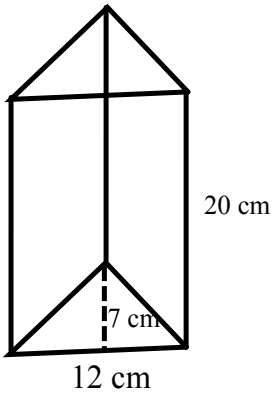
$= 60cm^2$

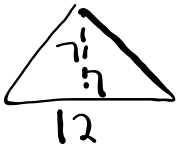
$Volume = A_{bases} \times h$

$= 60cm^2 \times 20cm$

$= 1200\ cm^3$

Ex 2)





$A_\Delta = \frac{b \times h}{2}$

$= \frac{12cm \times 7cm}{2}$

$= \frac{84cm^2}{2}$

$= 42cm^2$

$V = A_{bases} \times h$

$= 42cm^2 \times 20c$

$= 840\ cm^3$

Class/Homework

page 206-207
13(b both blue and Green), #14a), #17a

Page 378 #9(a,b,c)

Test Next week on Unit 4 Volume & Surface Area

May 26 May__, 2016???