Printout

Wednesday, April 17, 2019 1:53 PM

Math 8
Power/Clay

Name_____ _____
Block_____

4.3 Surface Area of a Right Rectangular Prism

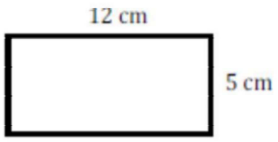
Recall...What is the difference between a prism and a pyramid?

- 2 bases
- rectangular faces

- 1 base
- triangular faces

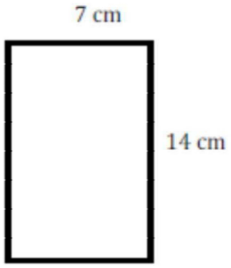
Recall...Surface Area of a Rectangle= (length)(width)

Example: Find the area of each rectangle

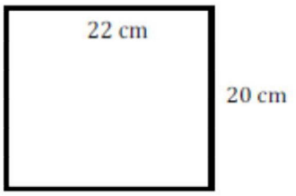


Area = L x W

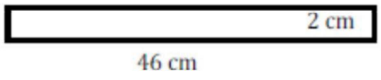
A = 12 x 5
A = 60 cm²



lw
(7)(14)
98cm²



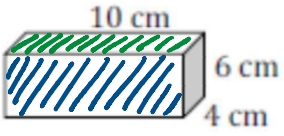
A = lw
= (22)(20)
= 440cm²

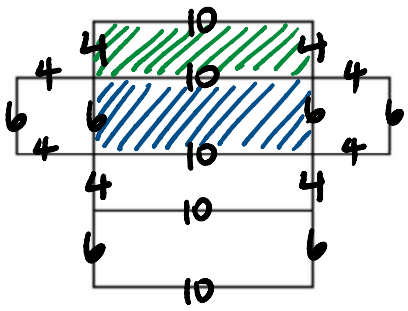


A = lw
= (46)(2)
= 92cm²

Example 1. Find the Surface Area of the following Rectangular Prism.

Method 1: Draw a Net!



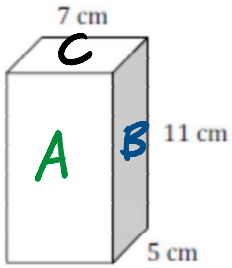


SA = 2(6x10) = 120
2(10x4) 80
+ 2(4x6) + 48
248cm²

SA = 2(6x10) + 2(10x4) + 2(4x6)

$$SA = 2(6 \times 10) + 2(10 \times 4) + 2(4 \times 6)$$
$$= 120 + 80 + 48$$
$$= \boxed{248\,cm^2}$$

Method 2:



STEPS:
1. Identify each Rectangle with a letter.
2. Add the Areas
3. Multiply them by 2

Rectangle A: $A = 7 \times 11 = 77$

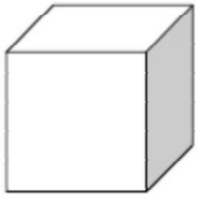
Rectangle B: $A = 5 \times 11 = 55$

Rectangle C: $A = 7 \times 5 = 35$

Surface Area = 2(A+B+C) = $2(77+55+35)$
$= 2(167)$
$= 334\ cm^2$

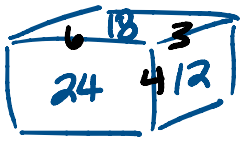
You Try:

All sides 6 cm = cube



$SA = 6(s^2)$
$= 6(6^2)$
$= 216\ cm^2$

A word problem: A right rectangular prism has faces with these areas: $12cm^2$, $24cm^2$ and $18cm^2$. What are the dimensions of the prism?



dimensions: $3 \times 4 \times 6\ cm$

Assignment: Worksheet