

Name: Key  
Date: \_\_\_\_\_

Mr. Johnson  
Math 8

### Lesson 4.3 – Surface Area of a Right Rectangular Prism

#### Definitions:

Area: the # of square units needed to cover a region

Surface Area: the total area of the surface of an object

Right Rectangular Prism: a prism that has rectangular faces

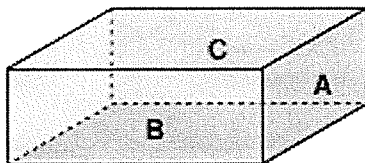
#### Notes:

A right rectangular prism has 3 pairs of congruent rectangles.

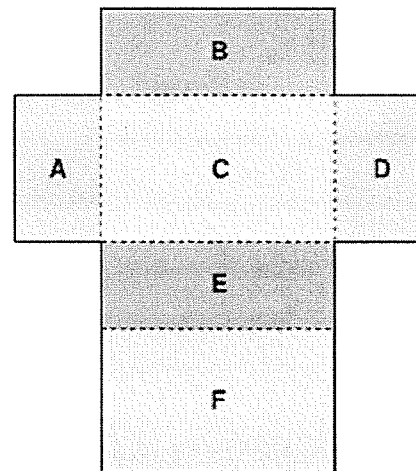
When calculating surface area be sure to remember that your solution will be in units squared. For example  $mm^2$ ,  $cm^2$ ,  $km^2$ , etc.

Given the net below we can calculate surface area as:

$$SA = (2 \times \text{area of Rectangle A}) + (2 \times \text{area of Rectangle B}) + (2 \times \text{area of Rectangle C})$$



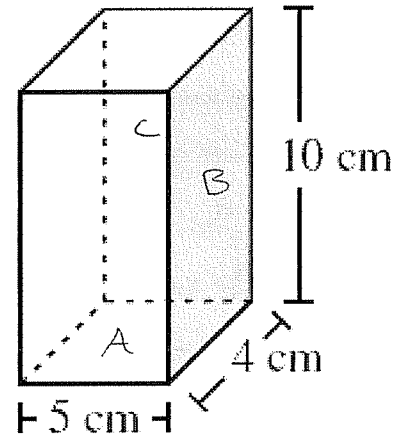
(Note that Side A=D, B=E & C=F)



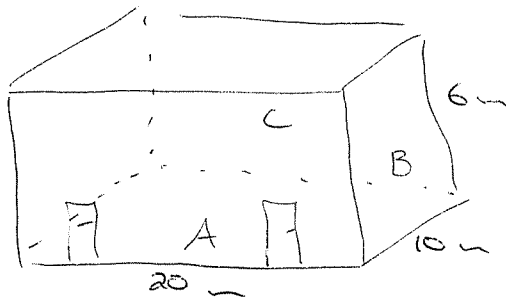
Examples:

1. Find the surface area of this right rectangular prism.

$$\begin{aligned} SA &= (2 \times 5 \times 4) + (2 \times 10 \times 4) + (2 \times 10 \times 5) \\ &= 40 + 80 + 100 \\ &= 220 \text{ cm}^2 \end{aligned}$$



2. Mr. Johnson wants to paint the entire outside of his portable neon pink. What is the surface area if the dimensions are 10 m. wide, 20 m. long, and 6 m. tall?



(draw yourself a picture, it helps!)

$$\begin{aligned} SA &= (2 \times 20 \times 10) + (2 \times 10 \times 6) + (2 \times 20 \times 6) \\ &= 400 + 120 + 240 \\ &= 760 \text{ m}^2 \end{aligned}$$

Assignment:

Pg. 186-187  
#’s 1-2, 4-7, 13-15