

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

Mr. Johnson  
Math 8

### Lesson 4.4 – Surface Area of a Right Triangular Prism

#### Investigation:

Work with a partner you have not already worked with this year. Using the triangular prism given by Mr. Johnson calculate the surface area. Once finished answer the following questions

1. Describe your strategy for finding the surface area of the triangular prism.

I found the area of each triangular base and the area of each rectangular face. Then, I added these areas to find the surface area.

2. How does this strategy compare to the strategy you use find the surface area of a rectangular prism?

Very similar, only bases are rectangular!

3. Compare your strategy and results with a pair of classmates. How do they compare and how do they differ?

Student response

#### Notes:

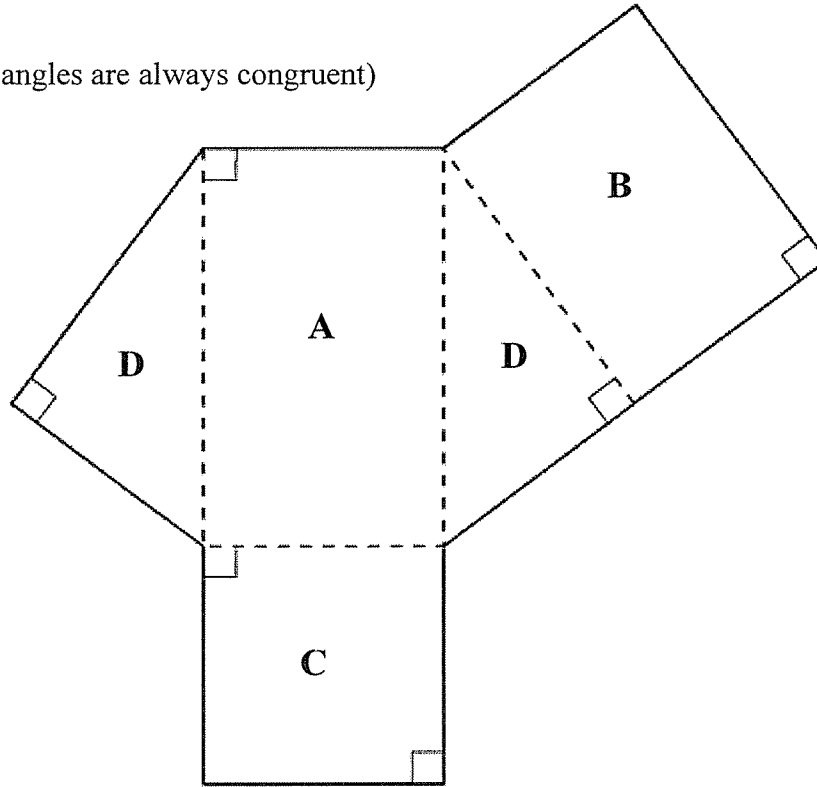
A right triangular prism has 5 faces (3 rectangular faces and 2 triangular bases). The two triangular bases of the prism are congruent. When calculating the surface area of right triangular prism remember that you solution will be written as the given unit squared.

Given the net below we can calculate surface area as:

**SA =**

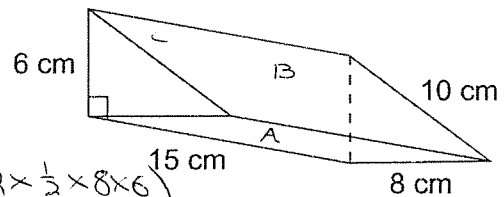
(Area of Rectangle A) + (Area of Rectangle B) + (Area of Rectangle C) + (2 × Area of one triangular Base)

(Note triangles are always congruent)



Examples:

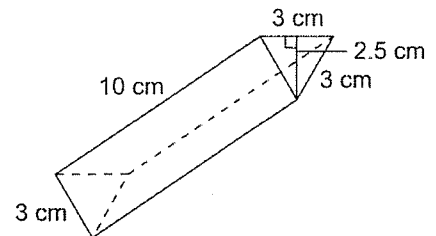
1. Find the surface area of this prism.



$$\begin{aligned}
 SA &= (15 \times 8) + (15 \times 6) + (10 \times 15) + (2 \times \frac{1}{2} \times 8 \times 6) \\
 &= 120 + 90 + 150 + 48 \\
 &= 408 \text{ cm}^2
 \end{aligned}$$

2. Find the surface area of this Toblerone chocolate bar!

$$\begin{aligned}
 SA &= 3(3 \times 10) + (2 \times \frac{1}{2} \times 3 \times 2.5) \\
 &= 90 + 7.5 \\
 &= 97.5 \text{ cm}^2
 \end{aligned}$$



Assignment:

Pg. 191-193  
#s 1-9, 12