

# Chapter 12 Surface Area and Volume

## 12.3 Surface Area of Rectangular Prisms

Pages 642-648

## NOTES (12.3) Surface Area of Rectangular Prisms

The **surface area** of a solid is the sum of the areas of its outside surfaces.

The **net** is a two-dimensional representation of a solid.

**Memorize!**

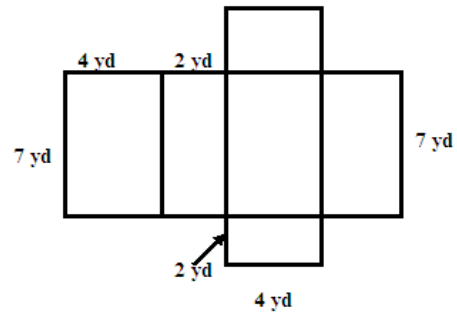
$$S = 2lw + 2lh + 2wh$$

Surface Area =  $2 \cdot \text{length} \cdot \text{width}$  +  $2 \cdot \text{length} \cdot \text{height}$  +  $2 \cdot \text{width} \cdot \text{height}$

Guided Practice pp 644-645

Do # 4 & 6 like this

5)



**Area of top or bottom**

$$A = bh$$

$$A = 4 \cdot 7$$

$$A = 28$$

**Area of front or back**

$$A = bh$$

$$A = 4 \cdot 2$$

$$A = 8$$

**Area of either side**

$$A = bh$$

$$A = 7 \cdot 2$$

$$A = 14$$

$$\text{Surface area} = 2 \cdot 28 + 2 \cdot 8 + 2 \cdot 14$$

$$56 + 16 + 28 = 100 \text{ yds}^2$$

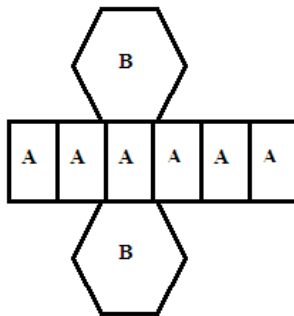
Do # 8 & 10 like this

$$\begin{aligned} 9) S &= 2lw + 2lh + 2wh \\ S &= 2 \cdot 17 \cdot 20 + 2 \cdot 17 \cdot 5 + 2 \cdot 20 \cdot 5 \\ S &= 40 \cdot 17 + 10 \cdot 17 + 2 \cdot 100 \\ S &= 680 + 170 + 200 \\ S &= 1050 \text{ cm}^2 \end{aligned}$$

#20 (3 pts)

Do # 22 like this (\*B = area of the base)

21)



(given)  
 $B = 10.4 \text{ mm}^2$

Face area  
 $A = bh$   
 $A = 2 \cdot 4$   
 $A = 8$

$$\begin{aligned} B + B + A + A + A + A + A + A \\ 2B + 6A \\ 2 \cdot 10.4 + 6 \cdot 8 \\ 20.8 + 48 &= 68.8 \text{ mm}^2 \end{aligned}$$