

Surface Area of a Prism

To find the total surface area of a 3-D object:

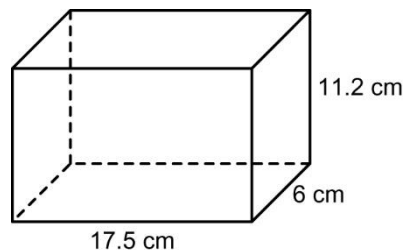
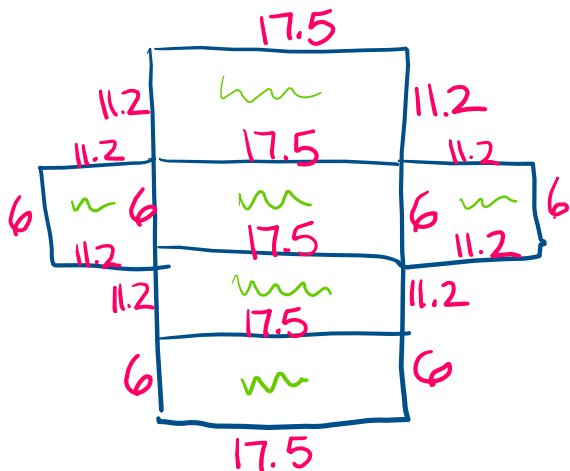
- Find _____ the number of faces.
- Calculate the _____ area _____ of each face.
- Find the _____ sum _____ of the surface areas of the faces.

Surface area is the total of the areas of all the faces of a 3-D object.

Calculate to the nearest tenth of a centimeter.

Number of faces 6

Draw a net of this prism



$$\begin{aligned}
 A &= lw \\
 &= 17.5 \times 11.2 \times 2 \\
 &= 392 \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 A &= lw \\
 &= 6 \times 17.5 \times 2 \\
 &= 210 \text{ cm}^2
 \end{aligned}$$

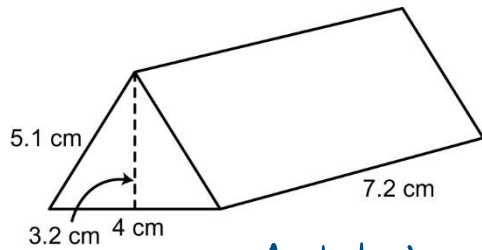
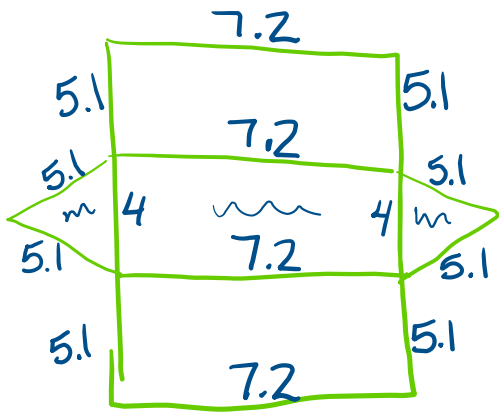
$$\begin{aligned}
 A &= lw \\
 &= 6 \times 11.2 \times 2 \\
 &= 134.4 \text{ cm}^2
 \end{aligned}$$

Total surface area = _____

$$\begin{aligned}
 SA &= 392 + 210 + 134.4 \\
 &= 736.4 \text{ cm}^2
 \end{aligned}$$

Number of faces 5

Draw a net for this prism.



$$A = lw$$

$$= 7.2 \times 5.1 \times 2$$

$$= 73.44 \text{ cm}^2$$

$$A = lw$$

$$= 7.2 \times 4$$

$$= 28.8 \text{ cm}^2$$

$$A = bh \div 2 \times 2$$

$$= 4 \times 3.2 \div 2 \times 2$$

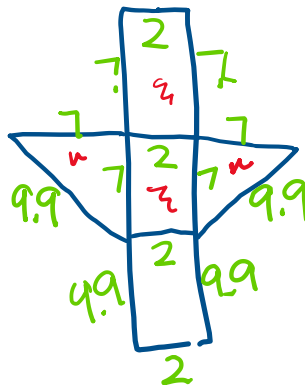
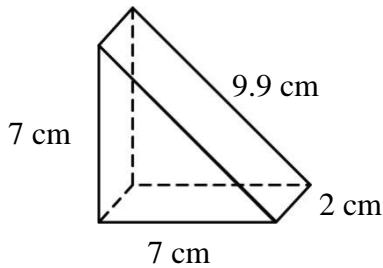
$$= 12.8 \text{ cm}^2$$

Total surface area _____

$$SA = 28.8 + 12.8 + 73.44$$

$$SA = 115.04 \text{ cm}^2$$

Show You Know: Find the surface area of this triangular prism. Hint: Draw a net!



$$A = bh \div 2 \times 2$$

$$= 7 \times 7 \div 2 \times 2$$

$$= 49 \text{ cm}^2$$

$$A = lw$$

$$= 2 \times 7 \times 2$$

$$= 28 \text{ cm}^2$$

$$A = lw$$

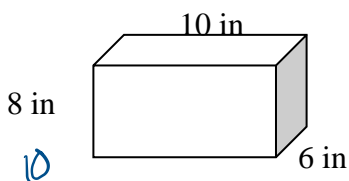
$$= 9.9 \times 2$$

$$= 19.8 \text{ cm}^2$$

$$SA = 49 + 28 + 19.8$$

$$= 96.8 \text{ cm}^2$$

Rob wants to cover a shoebox with decorative paper to make a storage box for his photos. How much paper will he need to cover the box?



$$A = lw$$

$$= 10 \times 8 \times 2$$

$$= 160 \text{ in}^2$$

$$A = lw$$

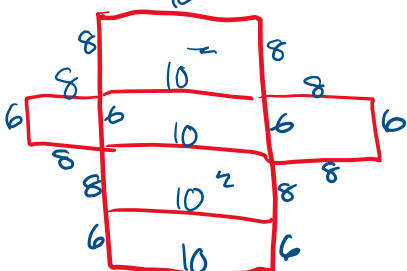
$$= 10 \times 6 \times 2$$

$$= 120 \text{ in}^2$$

$$A = lw$$

$$= 8 \times 6 \times 2$$

$$= 96 \text{ in}^2$$



$$SA = 160 + 120 + 96$$

$$= 376 \text{ in}^2$$