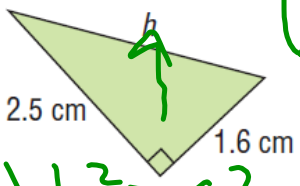
Warm Up

$a^2+b^2=c^2$ $c^2=a^2-b^2$

9. In each triangle, determine the unknown length.

a)



3.0 $2.5^2+1.6^2$

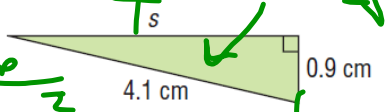
$6.25+2.56$

$\sqrt{8.81}=c^2$

$2.97=c$

$a^2+b^2=c^2$

b)



$4.1^2-0.9^2$

$16.81-0.81$

$\sqrt{16}$

$b=4$

$3.0=c$

ii) Calculate the perimeter and area of each

$P_{cr_1}=2.5+1.6+3.0$

7.1cm

$P_2=4+4.1+0.9$

$=9\text{cm}$

$\text{Area}_1=\frac{b\times h}{2}$

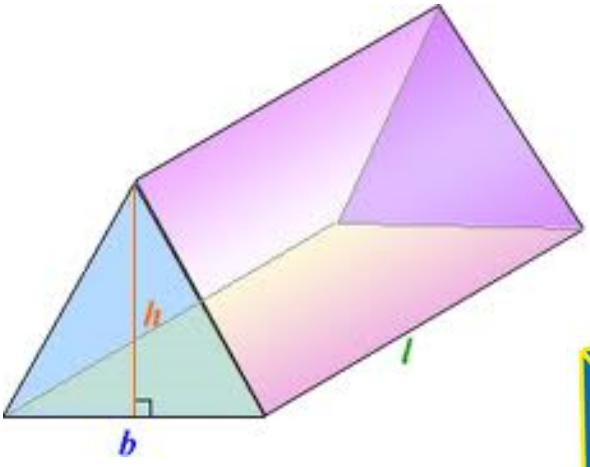
$\frac{1.6\times 2.5}{2}$

$=2\text{cm}^2$

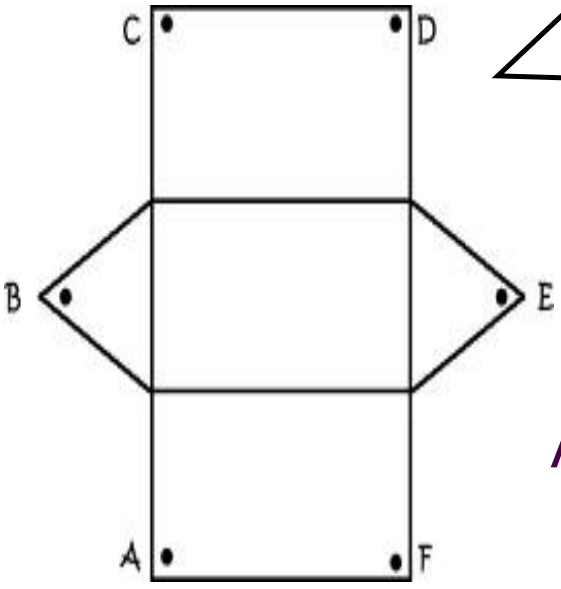
$\frac{4\times 0.9}{2}$

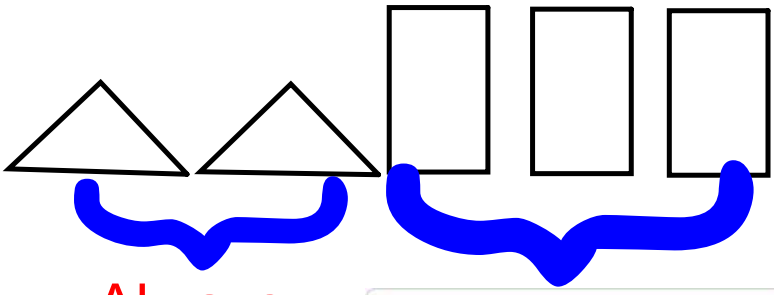
$=1.8\text{cm}^2$

Triangular Prisms



Triangular Prism



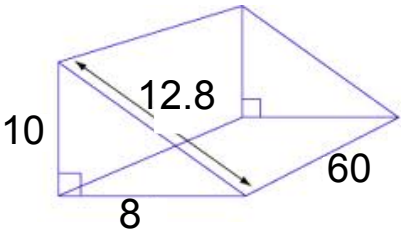


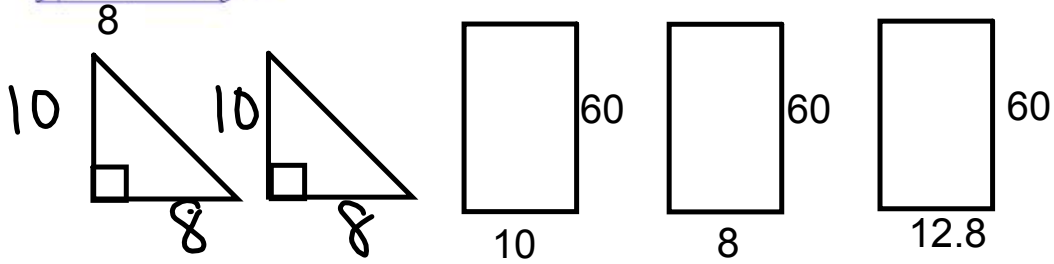
Always the same!!

$$A = \frac{b \times h}{2}$$

$$A = L \times W$$

Determine the surface area.





$A = \frac{b \times h}{2}$

$A = \frac{10 \times 8}{2}$

$A = \frac{80}{2}$

$A = 40 \times 2$

$A = 80$

$A = L \times W$

$A = 10 \times 60$

$A = 600$

$A = L \times W$

$A = 8 \times 60$

$A = 480$

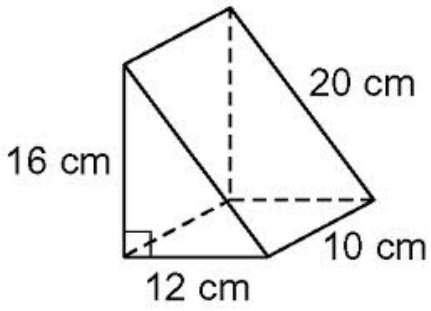
$A = L \times W$

$A = 12.8 \times 60$

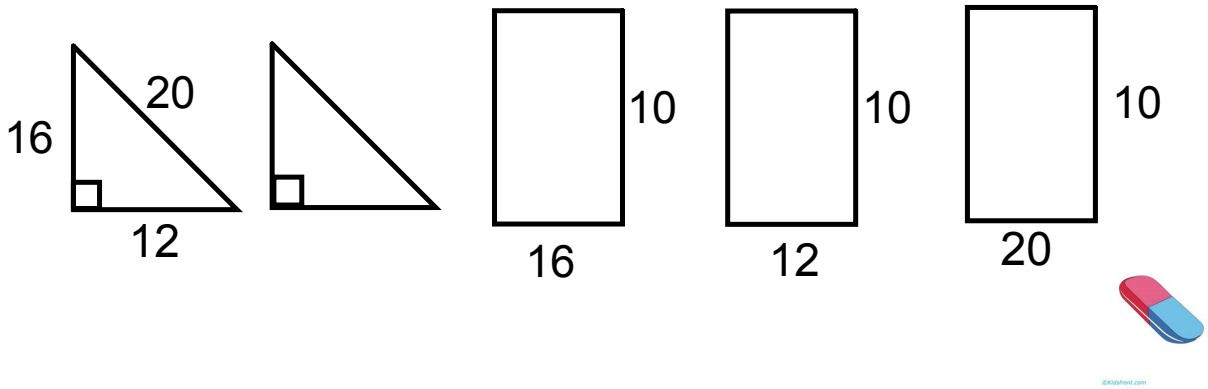
$A = 768$

$SA = 80 + 600 + 480 + 768$

$SA = 1928$

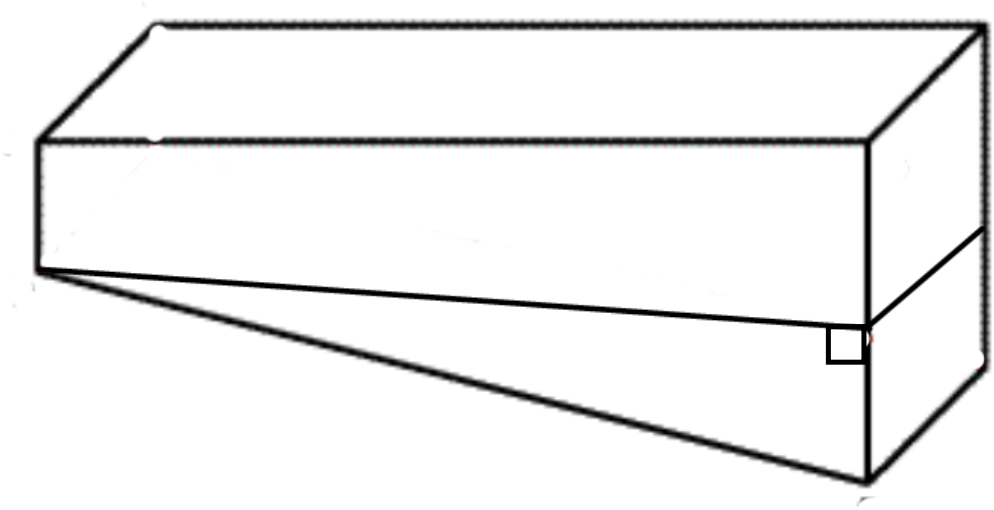


Draw and label each face.



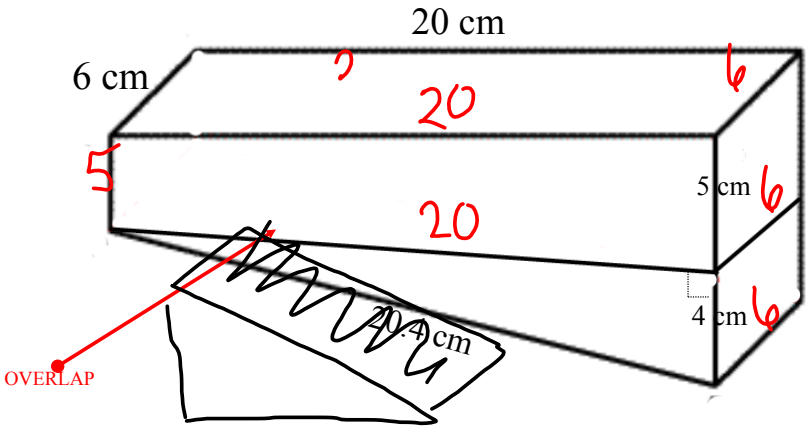
What is this "Composite Shape" made up of ?

Is there an overlap?



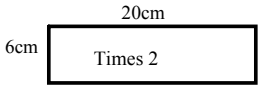
Calculate the surface area

Method 1)

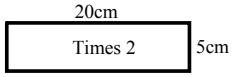


Step 1) Calculate the Surface area of each Prism INDIVIDUALLY

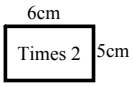
Rectangular prism (Surface)



A = 6cm x 20 cm
= 120 cm^2



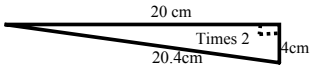
A =5cm x 20 cm
= 100 cm^2



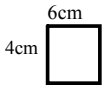
A =5cm x 6 cm
= 30 cm^2

Area of rectangular prims = 2(120) cm^2 + 2(100 cm^2) + 2(30cm^2)
= 240 cm^2 + 200 cm^2 + 60cm^2
= 500 cm^2

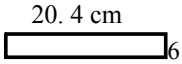
Triangular Prism



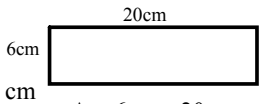
A = (20 cm X 4 cm) / 2
= (80 cm^2) / 2
= 40 cm^2



A = 4cm x 6cm
= 24 cm^2



A = 20.4 cm X 6 cm
= 122.4 cm^2



A = 6cm x 20 cm
= 120 cm^2

Area of triangular prism = 2(40 cm^2) + 24 cm^2 + 122.4cm^2 + 120cm^2
= 80cm^2 + 24 cm^2 + 122.4cm^2 + 120cm^2
= 346.4cm^2

Step 3) Calculate the overlap area BUT remember 2 faces are involved

A = 6 cm X 20 cm
= 120 cm^2

Total Surface Area = Rectangular prism + Triangular Prism - 2(OVERLAP)
= (500cm^2) + 346.4 cm^2 - 2 (120 cm^2)
= (500cm^2) + 346.4 cm^2 - 240cm^2

= 606.4 cm^2