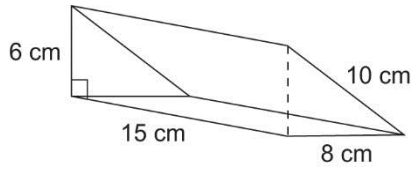
4.4 Surface Area of a Right Triangular Prism – Worksheet

1. Find the surface area of each triangular prism.

a)



$\frac{6\times8}{2}=24$

6cm 8cm 10cm 6cm

15cm

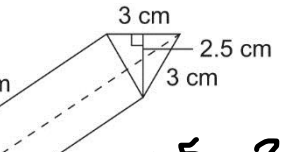
$15\times8=120\text{cm}^2$ $15\times10=150$ $15\times6=90$

$\frac{6\times8}{2}=\frac{48}{2}=24$

$S.A=24+24+120+150+90$

$=288\text{ cm}^2$

c)



3 cm

$\frac{3\times2.5}{2}=3.75$

3cm

10cm

$3\times10=30$ $3\times10=30$ $3\times10=30$

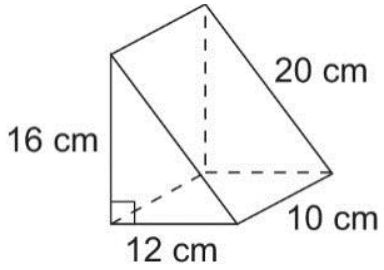
2.5

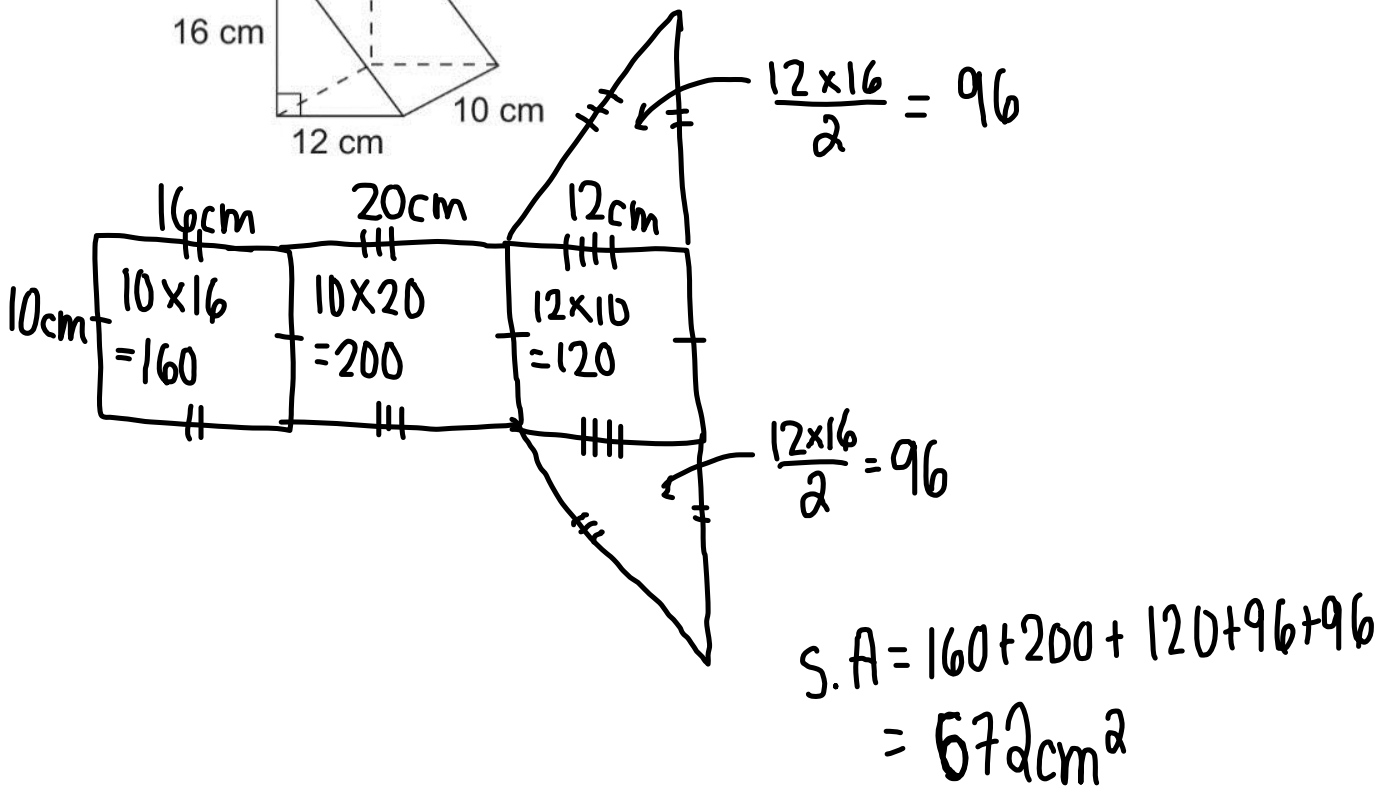
$\frac{3\times2.5}{2}=3.75$

$S.A=30+30+30+3.75+3.75$

$=97.5\text{cm}^2$

b)

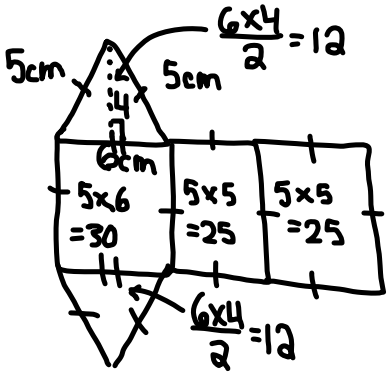




S.A = 160 + 200 + 120 + 96 + 96

= 672 cm^2

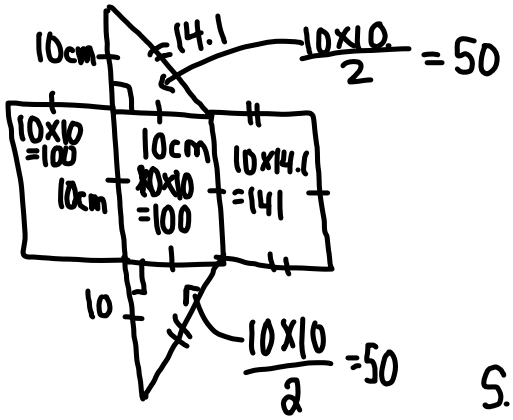
2. The length of a triangular prism is 5 cm. The side lengths of each triangular face are 5 cm, 5 cm, and 6 cm. The height of each triangular face is 4 cm.
Find the surface area of the triangular prism.



S.A = 30+25+25+12+12
= 104 cm²

3. A triangular prism has a right isosceles triangle as its base. The base of the triangle is 10 cm and its height is 10 cm. The length of the prism is also 10 cm.
Sketch the prism and find its surface area.

$a^2+b^2=c^2$
$10^2+10^2=c^2$
$100+100=c^2$
$\sqrt{200}=\sqrt{c^2}$
$c \div 14.1$



S.A = 100+100+141+50+50
= 441 cm²

4. A triangle has side lengths 10 mm, 24 mm, 26 mm. What kind of triangle is this?
Find the surface area of the corresponding prism with length:
a) 10 cm
b) 25 cm