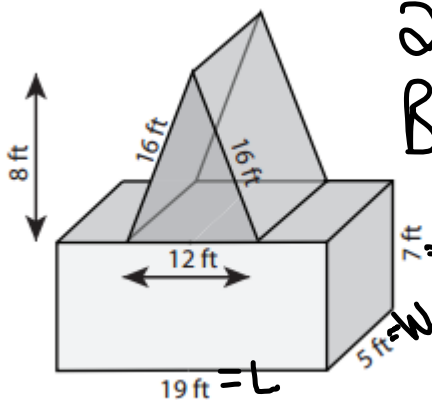**Grade 9 Math - Section 1.4 - Surface Area of Composite Triangular Prisms Worksheet**

Name: _____

Find the surface area of each composite object.

1.

S.A Triangular Prism:

2 Triangles: $2\left(\frac{bh}{2}\right) = 2\left(\frac{12 \times 8}{2}\right) = 96$

Bottom : $12 \times 5 \qquad = 60$

left : $16 \times 5 \qquad = 80$

right : $16 \times 5 \qquad = 80$

_____

316

S.A Rectangular Prism:

$\left[2 \cdot L \cdot W\right] + \left[2 \cdot L \cdot H\right] + \left[2 \cdot W \cdot H\right]$

$= \left[2 \cdot 19 \cdot 5\right] + \left[2 \cdot 19 \cdot 7\right] + \left[2 \cdot 5 \cdot 7\right]$

$= 190 \quad + \quad 266 + 70$

$= 526$

Overlap $= 12 \times 5 = 60$

T.S.A $= 316 + 526 - 2 \times 60$

$= 316 + 526 - 120$

$= 722 \, ft^2$

2.

10 ft
11 ft
11 ft
8 ft
9 ft
6 ft
18 ft
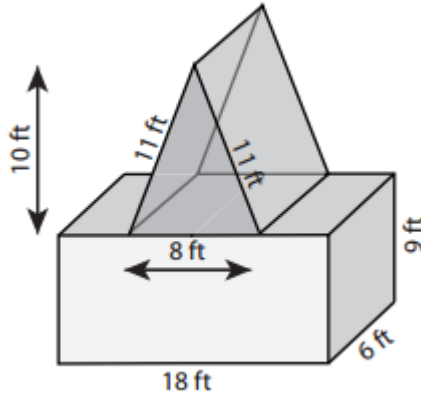
S.A Triangular Prism:

$F\frac{1}{3}B: 2\left(\frac{8\times10}{2}\right) = 80$

Sides: $2(11\times6) = 132$

Bottom: $8\times6 = 48$

$\overline{260}$

S.A Rectangular Prism:

$F\frac{1}{3}B: 2(18\times9) = 324$

$L\frac{1}{3}R: 2(6\times9) = 108$

$T\frac{1}{3}B: 2(18\times6) = \underline{216}$

$\overline{648}$

Overlap $= 2(8\times6) = 96$

$T.S.A = 260 + 648 - 96$

$= 812 ft^2$