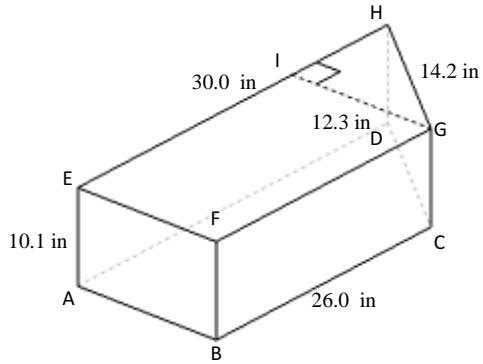
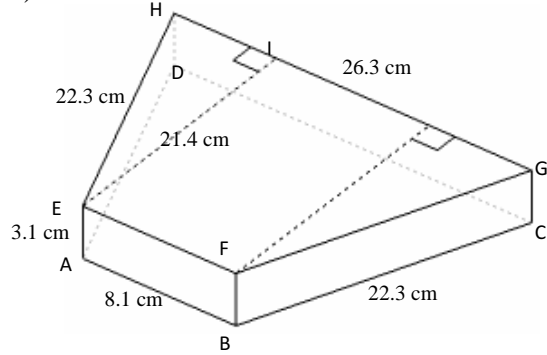


Volume and Surface Area of Trapezoid Prisms

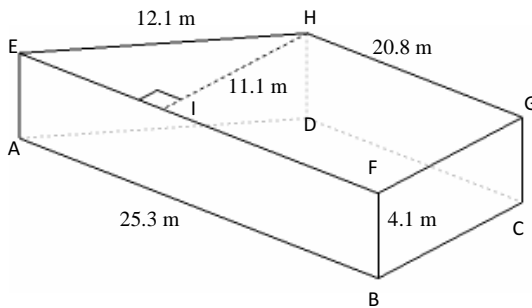
1)



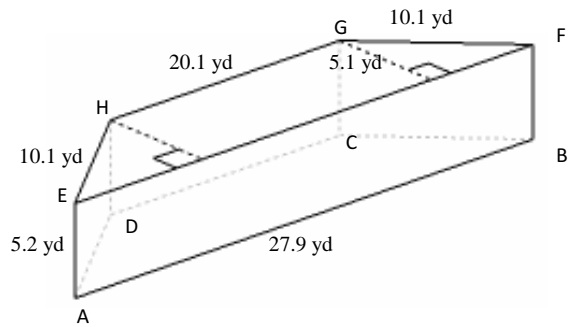
2)



3)



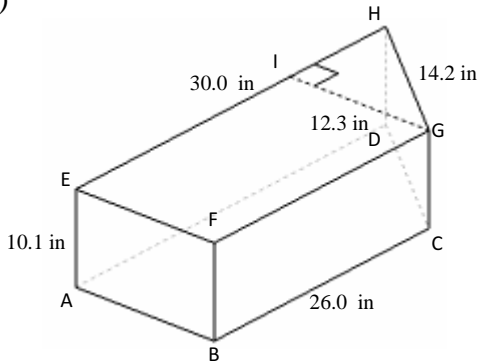
4)



Volume and Surface Area of Trapezoid Prisms

Instructions: Find the volume and surface area for each trapezoid prism.

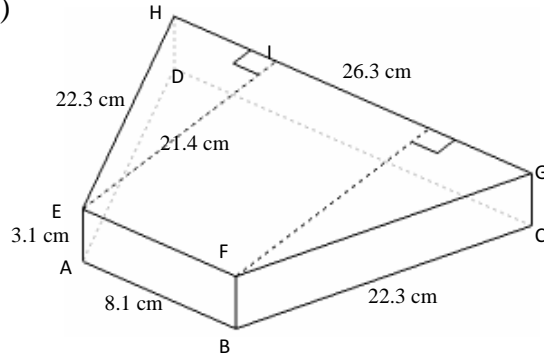
1)



$$\begin{aligned} V &= \text{Area of } ABCD \times AE \\ &= (0.5 \times (AD + BC) \times GI) \times AE \\ &= (0.5 \times (30.0 + 26.0) \times 12.3) \times 10.1 \\ &= 3478.4 \text{ in}^3 \end{aligned}$$

$$\begin{aligned} A &= (2 \times \text{Area of } ABCD) + (\text{perimeter of } ABCD \times AE) \\ &= (2 \times (0.5 \times (AD + BC) \times GI)) + ((AB + BC + CD + DA) \times AE) \\ &= (2 \times (0.5 \times (30.0 + 26.0) \times 12.3)) + ((12.3 + 26.0 + 14.2 + 30.0) \times 10.1) \\ &= 1522.1 \text{ in}^2 \end{aligned}$$

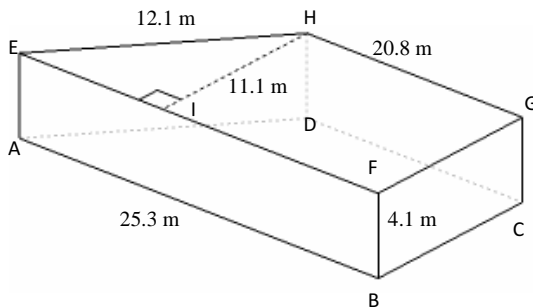
2)



$$\begin{aligned} V &= \text{Area of } ABCD \times AE \\ &= (0.5 \times (AB + CD) \times EI) \times AE \\ &= (0.5 \times (8.1 + 26.3) \times 21.4) \times 3.1 \\ &= 1141.0 \text{ cm}^3 \end{aligned}$$

$$\begin{aligned} A &= (2 \times \text{Area of } ABCD) + (\text{perimeter of } ABCD \times AE) \\ &= (2 \times (0.5 \times (AB + CD) \times EI)) + (((2 \times AD) + AB + CD) \times AE) \\ &= (2 \times (0.5 \times (8.1 + 26.3) \times 21.4)) + (((2 \times 22.3) + 8.1 + 26.3) \times 3.1) \\ &= 981.1 \text{ cm}^2 \end{aligned}$$

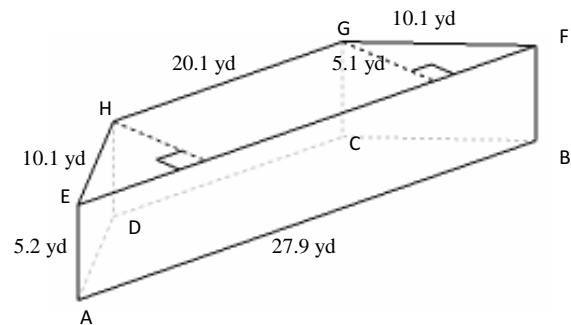
3)



$$\begin{aligned} V &= \text{Area of } ABCD \times BF \\ &= (0.5 \times (AB + CD) \times HI) \times BF \\ &= (0.5 \times (25.3 + 20.8) \times 11.1) \times 4.1 \\ &= 1049.0 \text{ m}^3 \end{aligned}$$

$$\begin{aligned} A &= (2 \times \text{Area of } ABCD) + (\text{perimeter of } ABCD \times BF) \\ &= (2 \times (0.5 \times (AB + CD) \times HI)) + ((AB + BC + CD + DA) \times BF) \\ &= (2 \times (0.5 \times (25.3 + 20.8) \times 11.1)) + ((25.3 + 11.1 + 20.8 + 12.1) \times 4.1) \\ &= 795.8 \text{ m}^2 \end{aligned}$$

4)



$$\begin{aligned} V &= \text{Area of } ABCD \times AE \\ &= (0.5 \times (AB + CD) \times GI) \times AE \\ &= (0.5 \times (27.9 + 20.1) \times 5.1) \times 5.2 \\ &= 636.5 \text{ yd}^3 \end{aligned}$$

$$\begin{aligned} A &= (2 \times \text{Area of } ABCD) + (\text{perimeter of } ABCD \times AE) \\ &= (2 \times (0.5 \times (AB + CD) \times GI)) + (((2 \times AD) + AB + CD) \times AE) \\ &= (2 \times (0.5 \times (27.9 + 20.1) \times 5.1)) + (((2 \times 10.1) + 27.9 + 20.1) \times 5.2) \\ &= 599.4 \text{ yd}^2 \end{aligned}$$