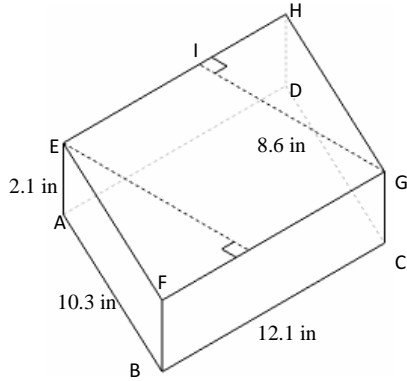


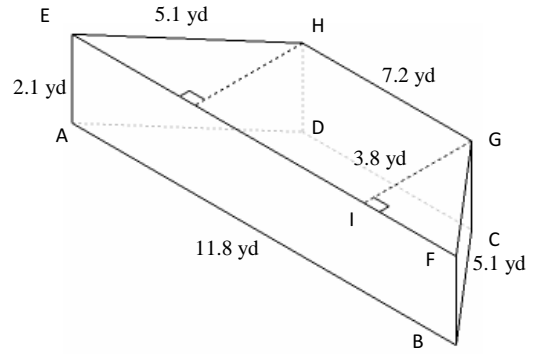
## Volume and Surface Area of Right Prisms (H)

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

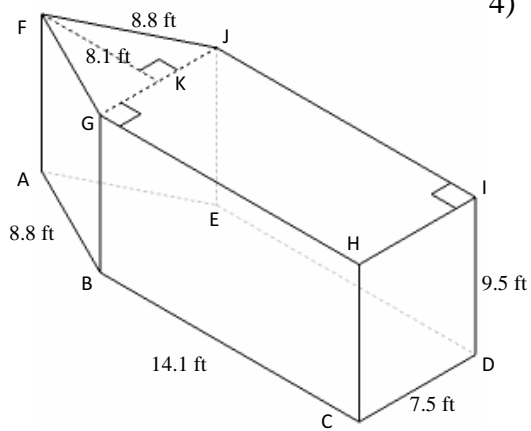
1)



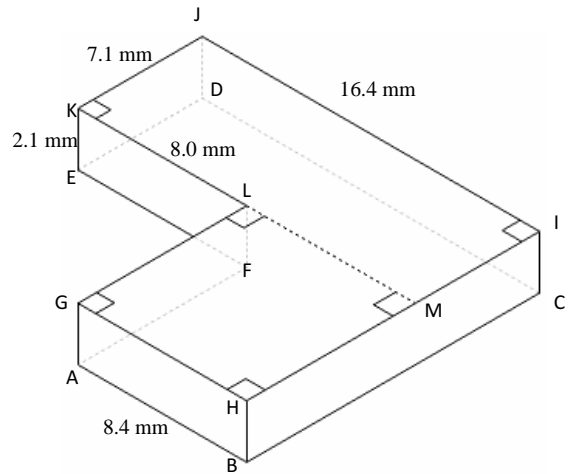
2)



3)



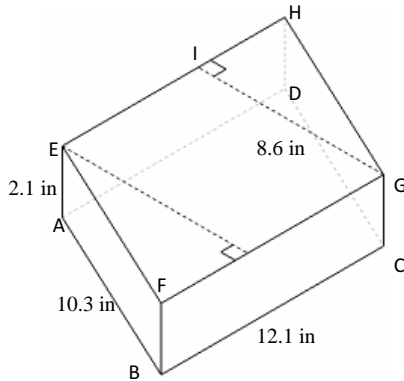
4)



# Volume and Surface Area of Right Prisms Answer (H)

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

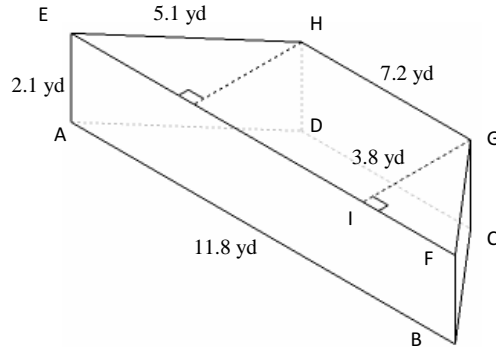
1)



$$\begin{aligned} V &= \text{Area of } ABCD \times AE \\ &= (BC \times GI) \times AE \\ &= (12.1 \times 8.6) \times 2.1 \\ &= 218.5 \text{ in}^3 \end{aligned}$$

$$\begin{aligned} A &= (2 \times \text{Area of } ABCD) + (\text{perimeter of } ABCD \times AE) \\ &= (2 \times (BC \times GI)) + ((2 \times AB) + (2 \times BC)) \times AE \\ &= (2 \times (12.1 \times 8.6)) + (((2 \times 10.3) + (2 \times 12.1)) \times 2.1) \\ &= 302.2 \text{ in}^2 \end{aligned}$$

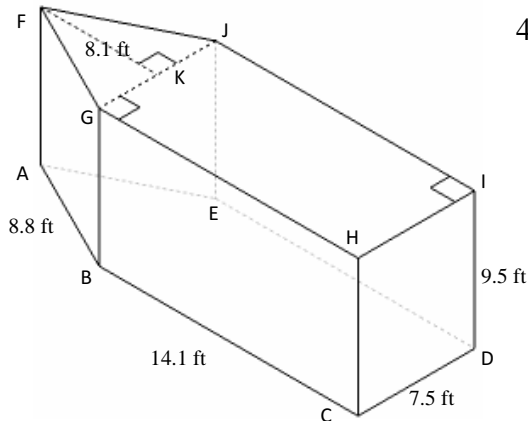
2)



$$\begin{aligned} V &= \text{Area of } ABCD \times BF \\ &= (0.5 \times (AB + CD) \times GI) \times BF \\ &= (0.5 \times (11.8 + 7.2) \times 3.8) \times 2.1 \\ &= 75.8 \text{ yd}^3 \end{aligned}$$

$$\begin{aligned} A &= (2 \times \text{Area of } ABCD) + (\text{perimeter of } ABCD \times BF) \\ &= (2 \times (0.5 \times (AB + CD) \times GI)) + (((2 \times AD) + AB + CD) \times BF) \\ &= (2 \times (0.5 \times (11.8 + 7.2) \times 3.8)) + (((2 \times 5.1) + 11.8 + 7.2) \times 2.1) \\ &= 133.5 \text{ yd}^2 \end{aligned}$$

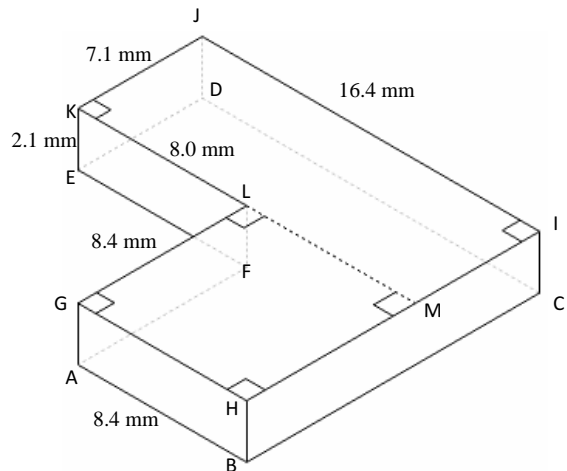
3)



$$\begin{aligned} V &= (\text{Area of } FGIJ + \text{Area of } GHI) \times ID \\ &= ((HI \times GH) + (0.5 \times GI \times KF)) \times ID \\ &= ((7.5 \times 14.1) + (0.5 \times 7.5 \times 8.1)) \times 9.5 \\ &= 1293.2 \text{ ft}^3 \end{aligned}$$

$$\begin{aligned} A &= (2 \times (\text{Area of } FGIJ + \text{Area of } GHI)) + (\text{perimeter of } FGHI \times ID) \\ &= (2 \times ((HI \times GH) + (0.5 \times GI \times KF))) + ((2 \times GH) + HI + (2 \times FG)) \times ID \\ &= (2 \times ((7.5 \times 14.1) + (0.5 \times 7.5 \times 8.1))) + ((2 \times 14.1) + 7.5 + (2 \times 8.8)) \times 9.5 \\ &= 778.6 \text{ ft}^2 \end{aligned}$$

4)



$$\begin{aligned} V &= (\text{Area of } GHML + \text{Area of } KMIJ) \times KE \\ &= ((GH)^2 + (IJ \times JK)) \times KE \\ &= ((8.4)^2 + (16.4 \times 7.1)) \times 2.1 \\ &= 392.7 \text{ mm}^3 \end{aligned}$$

$$\begin{aligned} A &= (2 \times (\text{Area of } GHML + \text{Area of } KMIJ)) + (\text{perimeter of } GHMIJL \times KE) \\ &= (2 \times ((GH)^2 + (IJ \times JK))) + ((3 \times GH) + (2 \times JK) + IJ + KL) \times KE \\ &= (2 \times ((8.4)^2 + (16.4 \times 7.1))) + ((3 \times 8.4) + (2 \times 7.1) + 16.4 + 8.0) \times 2.1 \\ &= 508.0 \text{ mm}^2 \end{aligned}$$