Volume and Surface Area of Composite Right Prisms (E)

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

1) 

2) 

3) 

4)
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1)

\[ V = (\text{Area of FGIJ} + \text{Area of HIG}) \times CH \]
\[ = ((16.1)^2 + (0.5 \times 16.1 \times 17.1)) \times 8.1 \]
\[ = 321.46 \text{ km}^3 \]

\[ A = 2(\text{Area of FGIJ} + \text{Area of HIG}) + (\text{perimeter of FGIJ} \times CH) \]
\[ = 2((16.1)^2 + (0.5 \times 16.1 \times 17.1)) + ((2 \times 16.1 + 2 \times 18.5) \times 8.1) \]
\[ = 1484.7 \text{ km}^2 \]

2)

\[ V = (\text{Area of ABCH} + \text{Area of LMNO}) \times AI \]
\[ = ((14.1 \times 10.1) + (3.2 \times 9.6)) \times 5.1 \]
\[ = 883.0 \text{ in}^3 \]

\[ A = 2(\text{Area of ABCH} + \text{Area of LMNO}) + (\text{perimeter of ABCDEFGH} \times AI) \]
\[ = 2((14.1 \times 10.1) + (3.2 \times 9.6)) + ((2 \times 14.1 + 2 \times 10.1 + 2 \times 3.2) \times 5.1) \]
\[ = 625.7 \text{ in}^2 \]

3)

\[ V = (\text{Area of FGHIJ} + \text{Area of HIJ}) \times AF \]
\[ = (14.1 \times 5.3) + (0.5 \times 14.1 \times 7.1) \times 5.1 \]
\[ = 636.4 \text{ yd}^3 \]

\[ A = 2(\text{Area of FGHIJ} + \text{Area of HIJ}) + (\text{perimeter of FGHIJ} \times AF) \]
\[ = 2((14.1 \times 5.3) + (0.5 \times 14.1 \times 7.1)) + ((14.1 + 2 \times 5.3 + 2 \times 5.1) \times 5.1) \]
\[ = 488.8 \text{ yd}^2 \]

4)

\[ V = (\text{Area of ABCH} + \text{Area of DEFG}) \times AI \]
\[ = ((16.4 \times 4.5) + (16.1 \times 4.3)) \times 1.1 \]
\[ = 157.3 \text{ mm}^3 \]

\[ A = 2(\text{Area of ABCH} + \text{Area of DEFG}) + (\text{perimeter of ABCDEFGH} \times AI) \]
\[ = 2((16.4 \times 4.5) + (16.1 \times 4.3)) + ((16.4 + 2 \times 4.5 + 2 \times 4.3 + 8.1) \times 1.1) \]
\[ = 359.4 \text{ mm}^2 \]