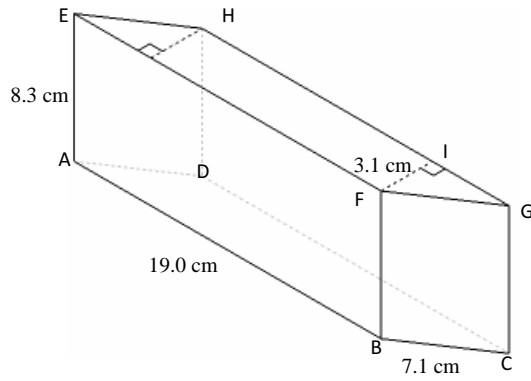# Volume and Surface Area of Right Prisms
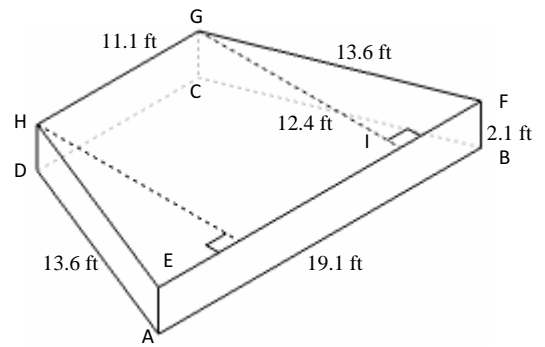
Instructions: Find the volume and surface area for each right prism.
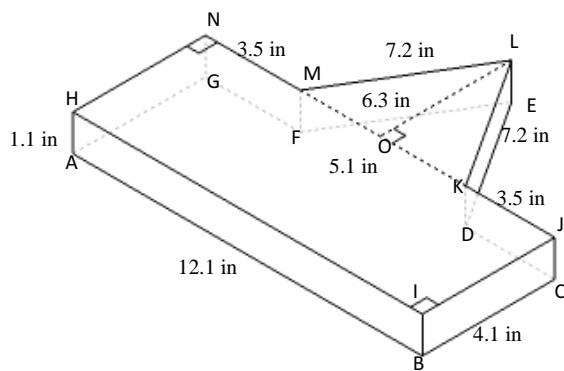
1)

8.3 cm

3.1 cm

19.0 cm

7.1 cm

2)

11.1 ft

13.6 ft

12.4 ft

2.1 ft

13.6 ft

19.1 ft

3)

3.5 in

7.2 in

6.3 in

7.2 in

1.1 in

5.1 in

3.5 in

12.1 in

4.1 in

4)

12.1 km

14.1 km

5.1 km

9.1 km

10.1 in

14.1 km
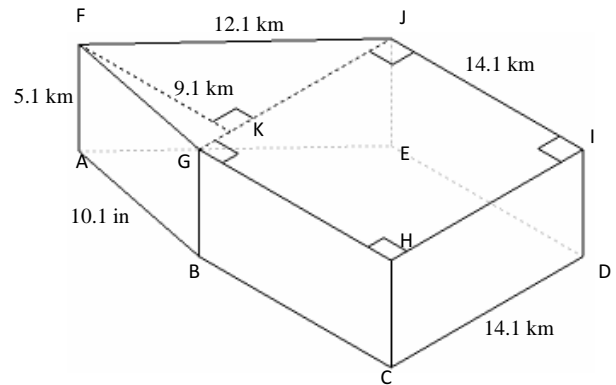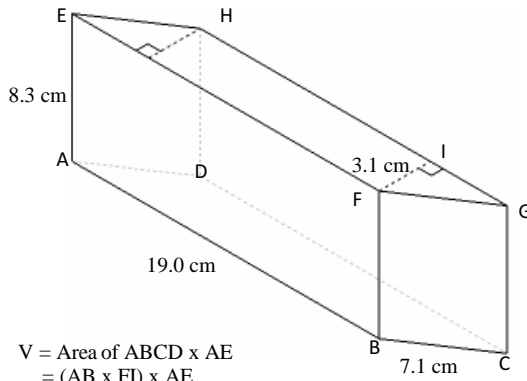
Volume and Surface Area of Right Prisms Answer

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

1)

E   H

8.3 cm

A   D   I
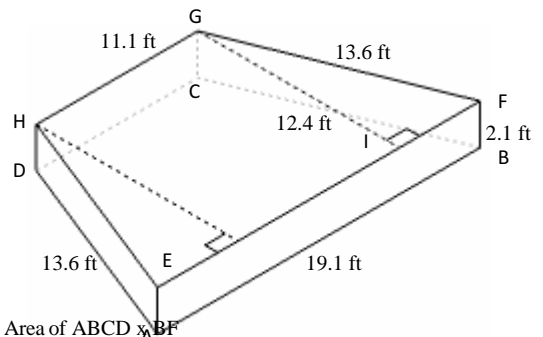   F   3.1 cm

                        G

19.0 cm

            B
          7.1 cm   C

V = Area of ABCD x AE
  = (AB x FI) x AE
  = (19.0 x 3.1) x 8.3
  = 488.9 cm^3

A = (2x Area of ABCD)+(perimeter of ABCD x AE)
  = (2x (AB x FI)) + (((2x AB)+(2x BC)) x AE)
  = (2x (19.0 x 3.1)) + (((2x 19.0)+(2x 7.1)) x8.3)
  = 551.1cm^2

2)

G
11.1 ft   13.6 ft
         C
H   F
              12.4 ft   2.1 ft
D   I   B

13.6 ft   E   19.1 ft

V = Area of ABCD x BF
  = (0.5x(AB + CD)x GI) x ABF
  = (0.5x(19.1 + 11.1) x12.4) x 2.1
  = 393.2 ft^3

A = (2x Area of ABCD)+(perimeter of ABCD x BF)
  = (2x (0.5x(AB + CD)x GI)) + (((2x AD)+AB+CD) x BF)
  = (2x (0.5x(19.1 +11.1)x12.4) + (((2x 13.6)+19.1+11.1) x2.1)
  = 495.0 ft^2

3)

            N
          3.5 in   7.2 in   L
         G   M
H   6.3 in   E
1.1 in   F   O   7.2 in
A   5.1 in
                          K   3.5 in
                              D   J
12.1 in
                    I   C
                        4.1 in
              B

V =(Area of ABCG+ Area of DEF) xAH
  = ((ABxBC)+ (0.5xDFxOL)) x AH
  = ((12.1x4.1)+ (0.5x5.1x6.3)) x 1.1
  = 72.2 in^3

A =(2x(Area of ABCG+ Area of DEF))+
    (perimeter of ABCDEFG x AH)
  = (2x ((ABxBC)+ (0.5xDFxOL)))+
    ((AB+(2xBC)+(2xCD)+(2xDE))x AH)
  = (2x ((12.1x4.1)+ (0.5x5.1x6.3)))+((12.1+(2x4.1)+(2x3.5)+(2x7.2))x 1.1)
  = 177.2 in^2

4)

F   12.1 km   J
                              14.1 km
5.1 km   9.1 km
              K
A   G   E   I
10.1 in
         B   H

                        D

            C   14.1 km
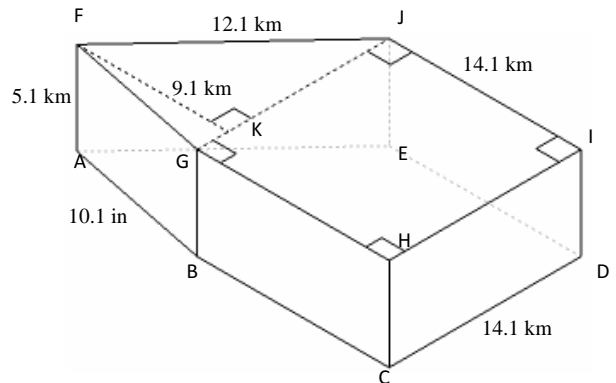
V = (Area of FGIJ+ Area of GHI) x AF
  = (HI)^2+(0.5x GIxKF) x AF
  = (14.1)^2 + (0.5x 14.1x9.1) x 5.1
  = 1341.1 m^3

A =(2x(Area of FGIJ+ Area of GHI))+(perimeter of FGHIJxAF)
  =(2x((HI)^2+(0.5x GIxKF)))+(((3x HI)+JF+FG)x AF)
  =(2x((14.1)^2+(0.5x 14.1x9.1)))+(((3x 14.1)+12.1+10.1)x 5.1)
  = 854.9 m^2