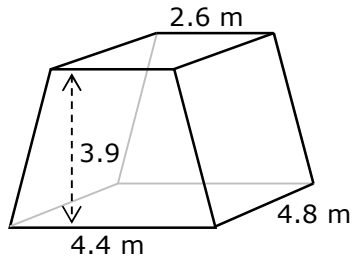


Volume and Surface Area Practice #2

1.

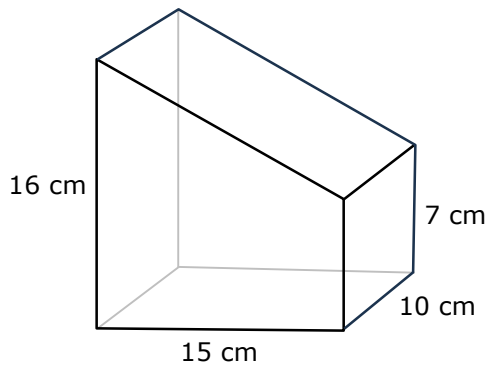


(the trapezium is symmetric)

Volume =

Surface Area =

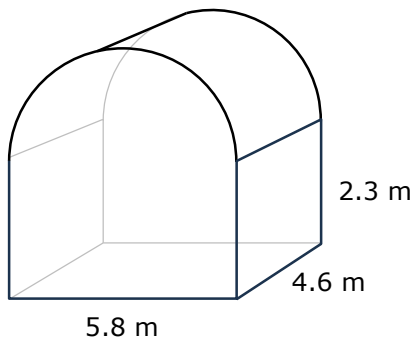
2.



Volume =

Surface Area =

3.



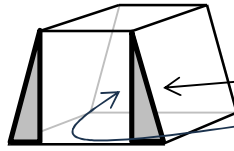
Volume =

Surface Area =

Answers: Volume and Surface Area Practice #2

Volume

Surface Area



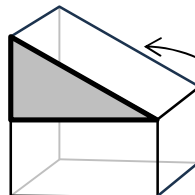
- Q1 cuboid middle piece
 base \times height \times depth
 $2.6 \times 3.9 \times 4.8 = 48.672$
 triangle edge prisms
 $\frac{1}{2} \times$ base \times height \times depth
 $\frac{1}{2} \times 0.9 \times 3.9 \times 4.8 = 8.424$
 $48.672 + 8.424 + 8.424$

$$= 65.52 \text{ m}^3$$

$$(= 65,520 \text{ L})$$

- $\sqrt{3.9^2 + 0.9^2} = 4.002 = 4$
- rectangle front: $2.6 \times 3.9 = 10.14$
 triangles front: $\frac{1}{2} \times 0.9 \times 3.9 = 1.755$
 top: $2.6 \times 4.8 = 12.48$
 bottom: $4.4 \times 4.8 = 21.12$
 sloping sides: $4.0 \times 4.8 = 19.2$
 $2 \times 10.14 + 4 \times 1.755 + 12.48 + 21.12$
 $+ 2 \times 19.2$

$$= 99.3 \text{ m}^2$$

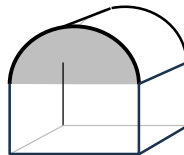


- Q2 cuboid bottom piece
 base \times height \times depth
 $15 \times 7 \times 10 = 1050$
 triangle top prism
 $\frac{1}{2} \times$ base \times height \times depth
 $\frac{1}{2} \times 15 \times 9 \times 10 = 675$
 $1050 + 675$

$$= 1725 \text{ cm}^3 (= 1.725 \text{ L})$$

- $= \sqrt{15^2 + 9^2} = 17.493 = 17.5$
- rectangle front: $15 \times 7 = 105$
 triangle front: $\frac{1}{2} \times 15 \times 9 = 67.5$
 sloping top: $17.5 \times 10 = 175$
 right side: $7 \times 10 = 70$
 left side: $16 \times 10 = 160$
 bottom: $15 \times 10 = 150$
 $105 + 105 + 67.5 + 67.5 + 70 + 160 + 150$

$$= 725 \text{ m}^2$$



- Q3 cuboid bottom piece
 base \times height \times depth
 $5.8 \times 2.3 \times 4.6 = 61.364$
 half cylinder top
 $(\text{base} \div 2) \times$ depth
 $(\pi \times 2.9^2 \div 2) \times 4.6 = 60.768$
 $61.364 + 60.768$

$$= 122.1 \text{ m}^3 (= 122,100 \text{ L})$$

- rectangle front: $5.8 \times 2.3 = 13.34$
 semicircle front: $\pi \times 2.9^2 \div 2 = 13.21$
 side rectangle: $4.6 \times 2.3 = 10.58$
 round top: $\pi \times 5.8 \times 4.6 \div 2 = 41.91$
 base rectangle: $5.8 \times 4.6 = 26.28$
 $13.34 + 13.34 + 13.21 + 13.21$
 $+ 10.58 + 10.58 + 41.91 + 26.28$

$$= 142.45 \text{ m}^2$$

Use sensible rounding. Remember to check units as well as the number answer