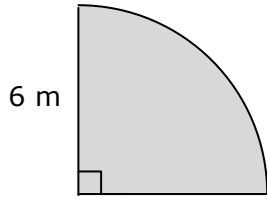


# Routine Measurement Practice #6

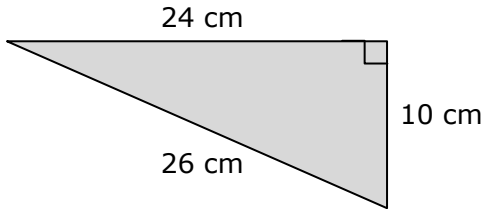
1.



Area = .....

Perimeter = .....

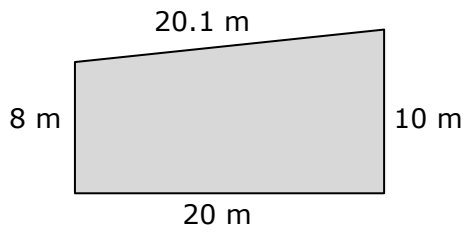
2.



Area = .....

Perimeter = .....

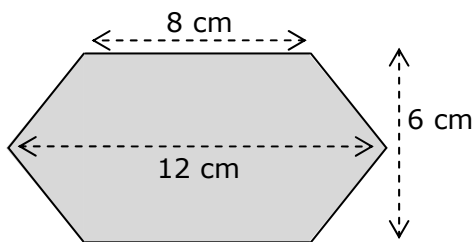
3.



Area = .....

Perimeter = .....

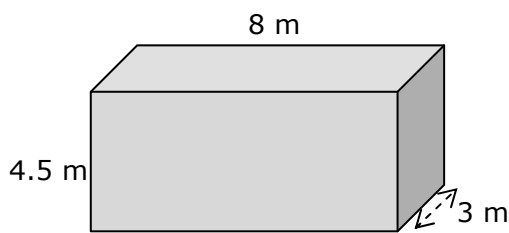
4.



Area = .....

Perimeter = .....

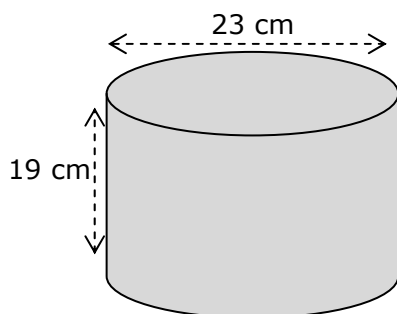
5.



Volume = .....

Surface Area = .....

6.



Volume = .....

Surface Area = .....

## Answers: Routine Measurement Practice #6

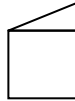
### Area

Q1  $\frac{1}{4} \times \pi \times \text{radius}^2$   
 $\frac{1}{4} \times \pi \times 6^2 = 28.27 \text{ m}^2$

Q2  $\frac{1}{2} \times \text{base} \times \text{height}$   
 $\frac{1}{2} \times 24 \times 10 = 120 \text{ cm}^2$

Q3 average base  $\times$  height  
 $\frac{8+10}{2} \times 20 = 180 \text{ m}^2$

or rectangle + triangle



$(8 \times 20) + (\frac{1}{2} \times 2 \times 20) = 180 \text{ m}^2$

Q4 rectangle + 2 triangles  
 $b \times h + 2 \times \frac{1}{2} \times b \times h$   
 $8 \times 6 + 2 \times \frac{1}{2} \times 6 \times \frac{1}{2}(12 - 8)$   
 $= 60 \text{ cm}^2$

(also outer rectangle - 4 outer triangles)

### Perimeter

$\frac{1}{4} \times \pi \times \text{diameter} + 2 \times \text{sides}$   
 $\frac{1}{4} \times \pi \times 12 + 2 \times 6 = 21.4 \text{ m}$

all sides added together  
 $24 + 26 + 10 = 60 \text{ cm}$

all sides added together  
 $20 + 20.1 + 8 + 10 = 58.1 \text{ m}$

2 horizontals + 4 diagonals  
 $8 + 8 + 4 \times \sqrt{a^2 + b^2}$  (Pythagoras)  
 $8 + 8 + 4 \times \sqrt{2^2 + 3^2} = 16 + 4 \times \sqrt{13}$   
 $= 30.4 \text{ cm}$

### Volume

Q5 base  $\times$  height  $\times$  depth  
 $b \times h \times d$   
 $4.5 \times 8 \times 3 = 108 \text{ m}^3$

Q6 base area  $\times$  depth  
 $(\pi \times \text{radius}^2) \times d$   
 $\pi \times 11.5^2 \times 19 = 7894.0 \text{ cm}^3$

### Surface Area

6 rectangle sides, in 3 pairs  
 $2 \times (4.5 \times 8) + 2 \times (4.5 \times 3) + 2 \times (3 \times 8)$   
 $= 147 \text{ m}^2$

flat side + 2 round ends  
 $(\pi \times d \times h) + (\pi \times r^2) + (\pi \times r^2)$   
 $(\pi \times 23 \times 19) + (\pi \times 11.5^2) + (\pi \times 11.5^2)$   
 $= 2203.8 \text{ cm}^2$

Remember to check units as well as the numerical value