How to find the surface area of a cylinder
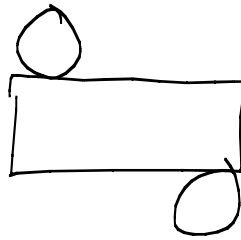
d=8cm

h=10cm
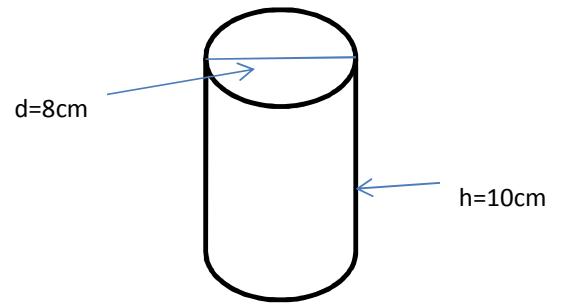
1. Draw the net.

2. Label any given dimensions on the net

8cm
?
10w   10cm
?
8cm
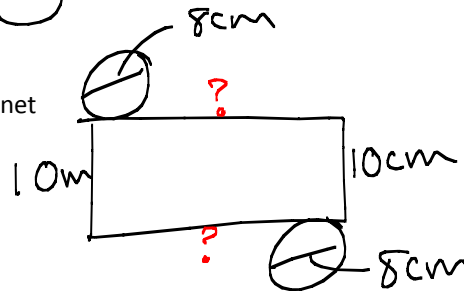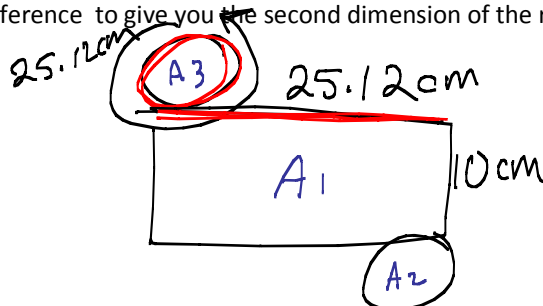
3. Find the circumference of the circle $C = 2\pi r$ OR $C = d\pi$

8cm

$C = d\pi$
$= 8 \times 3.14 = 25.12cm$

4. Use the circumference to give you the second dimension of the rectangle.

25.12cm
A3   25.12cm
A1   10cm
A2

5. Find the area of the rectangle and circles $A = lxw$ and $A = \pi r^2$

$r = \dfrac{d}{2} = \dfrac{8}{2} = 4$

$A_1 = lxw$
$= 25.12 \times 10$
$= 251.2cm^2$

$A_2 = \pi r^2$
$= 3.14 \times 4^2$
$= 3.14 \times 16$
$= 50.24cm^2$

$A_3 = 50.24cm^2$

6. Add up the 3 areas.

$A_T = 251.2cm^2 + 50.24cm^2 + 50.24cm^2$
$= 351.68 cm^2$

Your Turn:

d=3cm

l=15.5cm

r=12cm

h=4cm
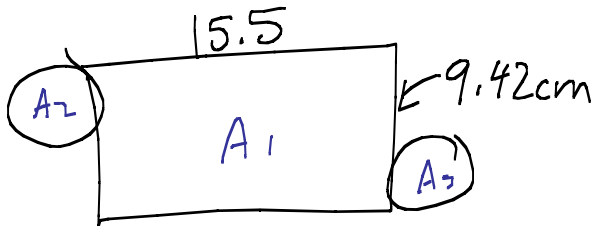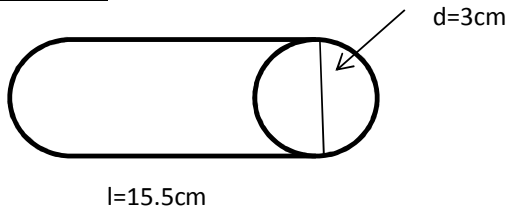
$A_1 = l \times w$
$= 15.5 \times 9.42$
$= 146.01 cm^2$

$A_2 = \pi r^2$
$= 3.14 \times 1.5^2$
$= 3.14 \times 2.25$
$= 7.065 cm^2$

$A_3 = 7.065 cm^2$

$C = d\pi$
$= 3 \times 3.14$
$= 9.42 cm$

$r = \frac{d}{2} = \frac{3}{2} = 1.5$

$A_T = 146.01 + 7.065 + 7.065$
$= 160.14 cm^2$
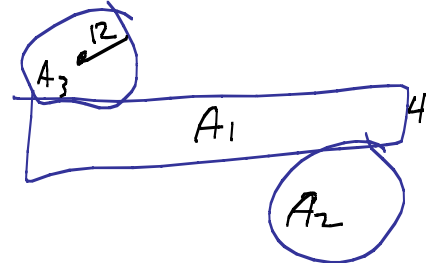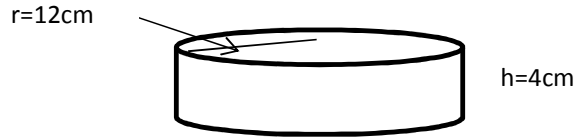
$A_1 = l \times w$
$= 75.36 \times 4$
$= 301.44 cm^2$

$C = 2\pi r$
$= 12 \times 3.14 \times 2$
$= 75.36 cm$

$A_2 = \pi r^2$
$= 3.14 \times 12^2$
$= 452.16 cm^2$

$A_3 = 452.16 cm^2$

$A_T = 301.44 + 452.16 + 452.16$
$= 1205.76 cm^2$