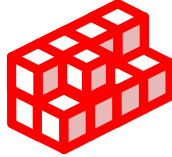# 1.3 Surface Area
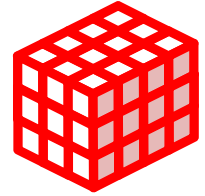
 ➢ **Surface Area is the sum of the areas of all the faces (sides) of a 3-D Object.**

1) In the following diagrams how many pieces have :
a) 4 faces showing?   a) 3 faces showing?
b) 3 faces showing?   b) 2 faces showing?
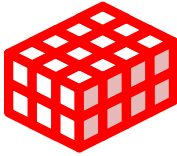c) 2 faces showing?   c) 1 faces showing?
d) 1 faces showing?   d) No faces showing?
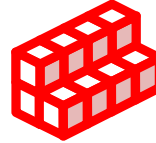
1) Determine the surface area of the composite of cubes. Each cube has sides of 1 unit.
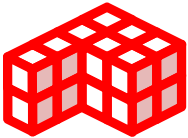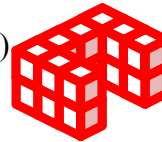a)

b)

c)

d)

e)
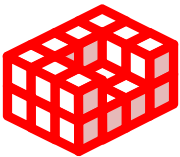
f)

g)
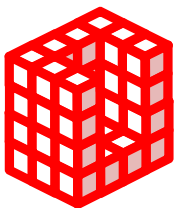
h)

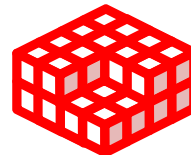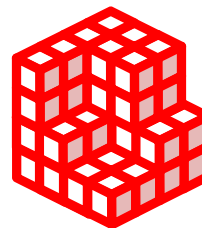2) Determine the surface area of the composite of cubes. Each cube has sides of 2 units.

a)

b)
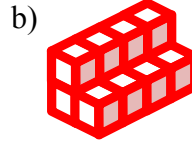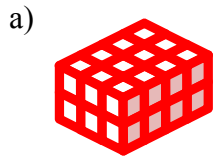
3) Determine the surface area of the composite of cubes. Each cube has sides of 3 units.

a)

b)
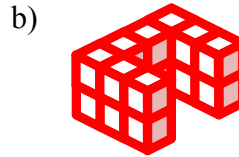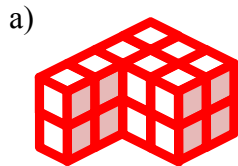
5) Determine the **total surface area** when the prisms are combined to form the composite object shown.
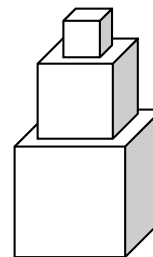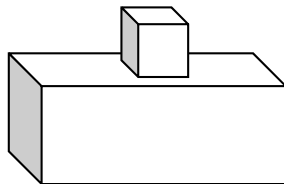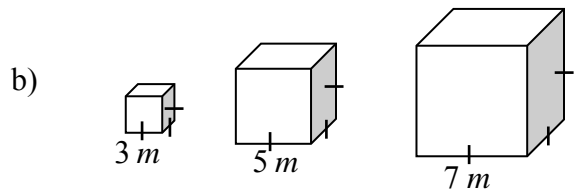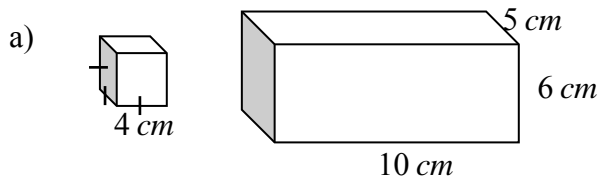
a)

5 *cm*

6 *cm*

4 *cm*

10 *cm*

b)

3 *m*

5 *m*

7 *m*

6) Determine the surface are of the composite figures. (all measurements are in cm)

a)

12   5

b)

5

8

6

10

c)

2

10

8

d)

2 3

1

2

8

3

10

15

e)

4

1

2

1.5
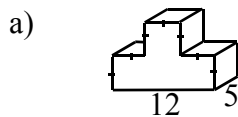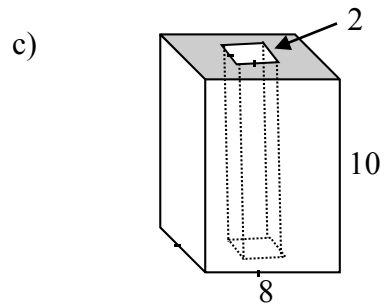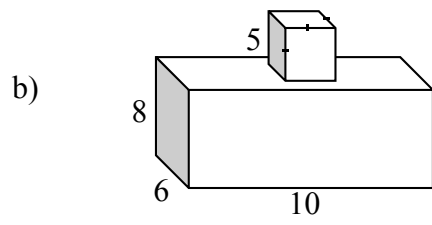
f)

7) Determine the **total area** of overlap when the cylinders are combined to form the composite object shown.
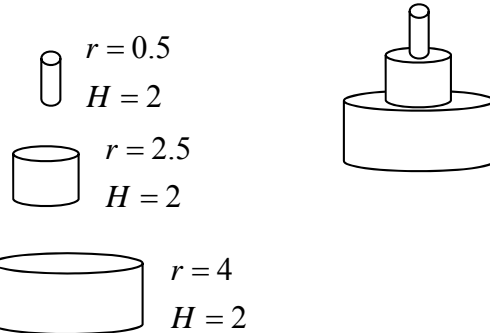
a)

$H = 4$ $H = 6$

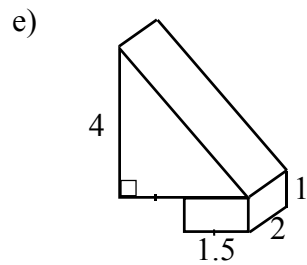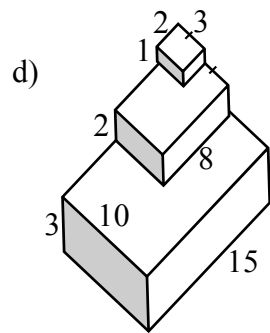$r = 3$ $r = 5$

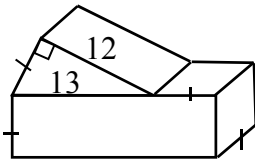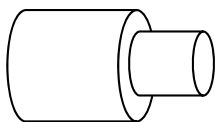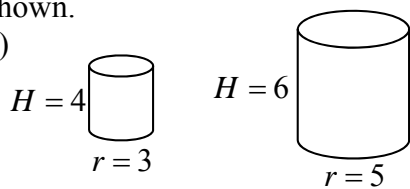b)

$r = 0.5$
$H = 2$

$r = 2.5$
$H = 2$

$r = 4$
$H = 2$

8) Determine the surface are of the composite figures. (all measurements are in cm)

a)

$r = 4$

10

2

$r = 6$

b)

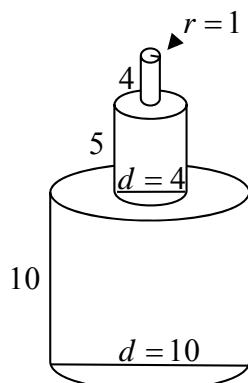
$r = 3$

10

$r = 6$

c)

$r = 1$

4

5

$d = 4$

10

$d = 10$
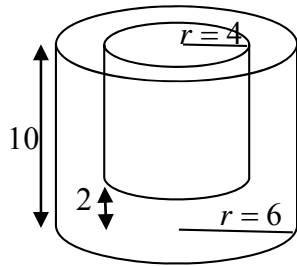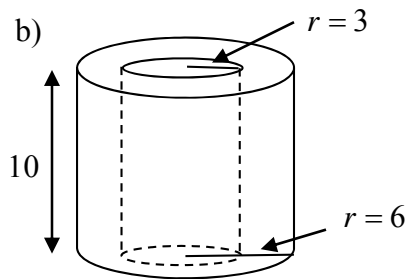
9) A bedroom with a rectangular shaped floor has a length of 8.5 feet, a width 9.5 feet and a height of 10 feet. It has one rectangular shaped door with dimensions 3 feet by 7 feet. Assuming there are no windows, find the surface area of the walls and ceilings. If one can of paint covers 175 feet squared, and you need to apply 2 coats of paint, how many cans of paint are required to paint the room?

10) A can of peas has a height of 10 cm and a circumference of 8π cm. What amount of paper is needed to make labels for 20 cans of peas?