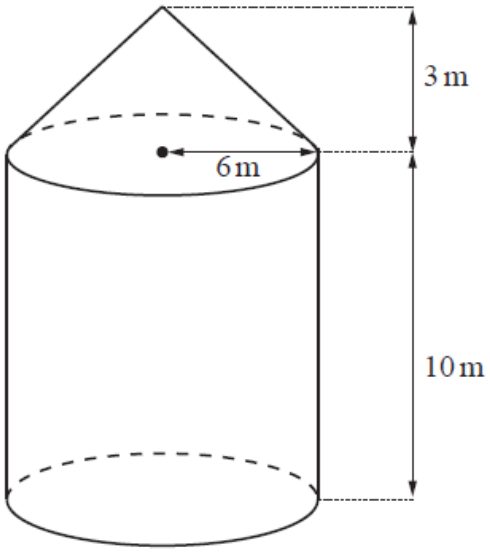
7.5 – Area and volume of compound shapes

Student name: _____ ANSWERS _____ Score: _____

1.



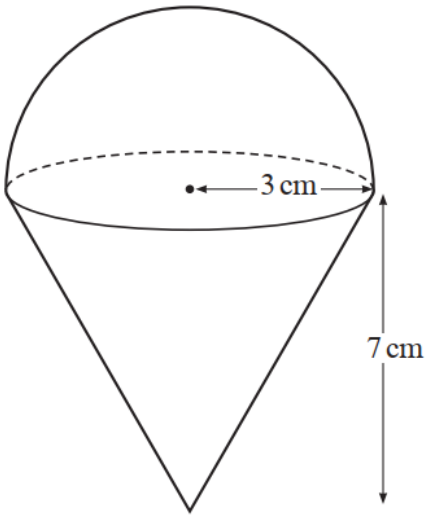
NOT TO SCALE

The diagram shows a shape made from a cylinder and a cone.
The cylinder and cone have a common radius of 6 m.
The height of the cylinder is 10 m and the height of the cone is 3 m.

Calculate the total volume of the shape.
Leave your answer as a multiple of π.

Answer ..... 396π ..... m^3 [3]

2.



NOT TO SCALE

The diagram shows a hemisphere joined to a cone.
The hemisphere has a radius of 3 cm.
The cone has a radius of 3 cm and a height of 7 cm.
The total volume of the shape is $k\pi$ cm^3.

Find the value of k.

$k =$ ..... 39 ..... [3]