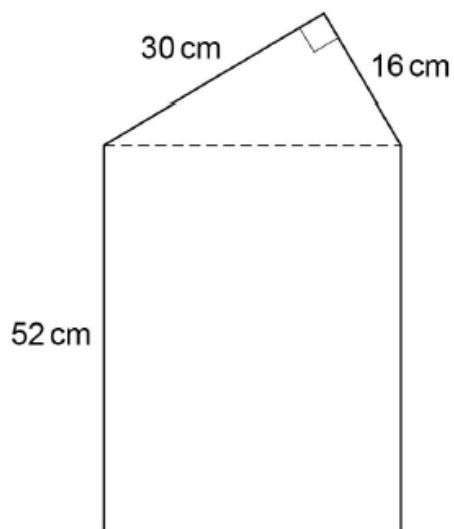**AQA – Mensuration and calculations – GCSE 2022 Mathematics**

1. June/2023/Paper_8300/2F/No.27

A shape is made by joining a right-angled triangle to a rectangle.

30 cm

16 cm

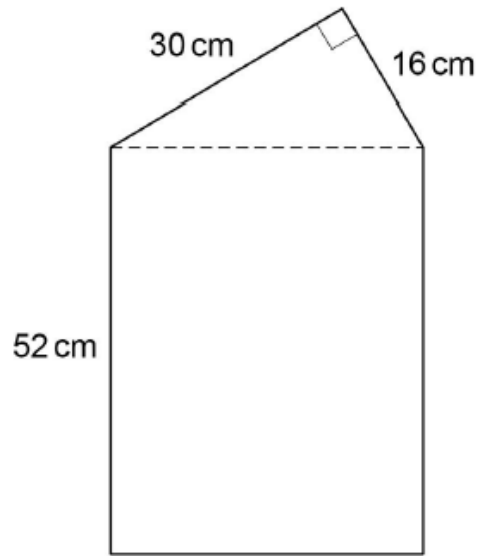Not drawn accurately

52 cm

Work out the area of the shape.

[5 marks]

_____

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____ cm^2

2. June/2023/Paper_8300/2H/No.11

A shape is made by joining a right-angled triangle to a rectangle.

30 cm

16 cm

Not drawn accurately

52 cm

Work out the area of the shape.

[5 marks]

_____

_____
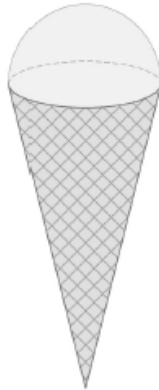
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Answer _____ cm^2

3. June/2023/Paper_8300/2H/No.13

Outside a cafe there is a large plastic ice cream cornet.

The cornet is a hemisphere on top of a cone.

The cone and the hemisphere each have radius 24 cm

The cone has perpendicular height 117 cm

Volume of a cone = $\frac{1}{3}\pi r^2 h$
r is the radius
h is the perpendicular height

Volume of a hemisphere = $\frac{2}{3}\pi r^3$
r is the radius

(a) Work out the total volume of the cornet.

[4 marks]

_____

_____

_____

_____

(b) The actual cornets that the cafe sells are **similar** to the plastic one.

For the actual cornets, the cone and the hemisphere each have radius 2 cm

How many times greater is the volume of the plastic cornet than an actual cornet?

[3 marks]

Answer _____

4. June/2023/Paper_8300/2H/No.27

To be rented, a bedroom must have a floor area of at least $6.51 \, m^2$

A bedroom has a rectangular floor.

The floor measures 2.4 m by 2.9 m, each correct to 2 significant figures.

Show that the bedroom can be rented.

[3 marks]