Space exam review

1

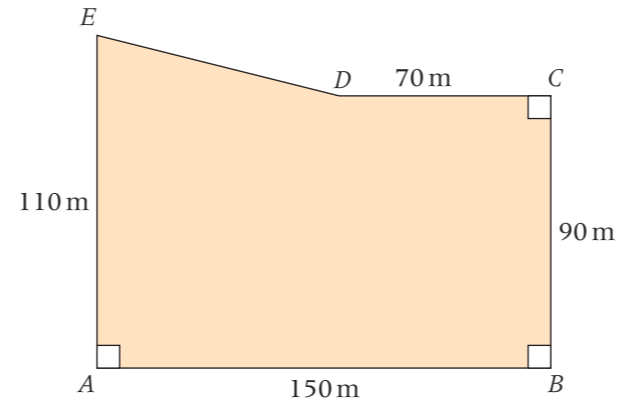Diagram **NOT** accurately drawn
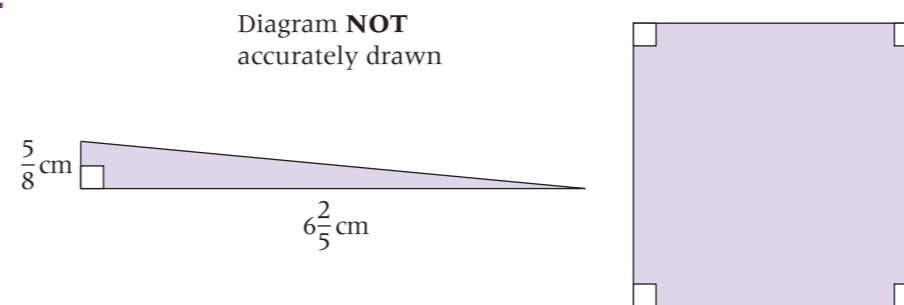
The shape *ABCDE* is the plan of a field.
AB = 150 m, *BC* = 90 m, *CD* = 70 m and *EA* = 110 m.
The corners at *A*, *B* and *C* are right angles.

Work out the area of the field.

.... m^2

(Total 4 marks)

2

Diagram **NOT** accurately drawn

The area of the square is 18 times the area of the triangle.

Work out the **perimeter** of the square.
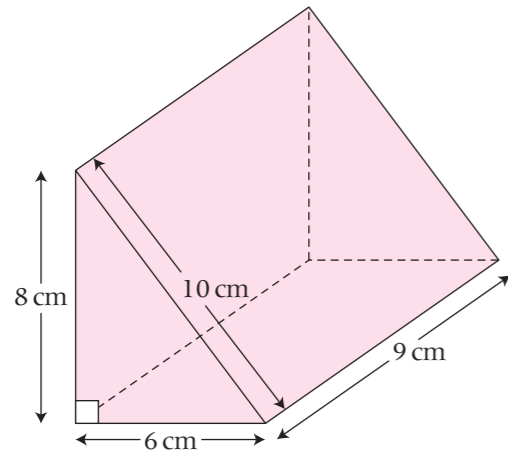
.... cm

(Total 5 marks)

3

Diagram **NOT** accurately drawn

8 cm 10 cm 9 cm 6 cm

Work out the surface area of the triangular prism.
State the units with your answer.

....

(Total 4 marks)

4 A fan is shaped as a sector of a circle, radius 12 cm, with angle 110° at the centre.
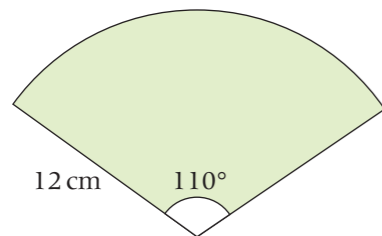
12 cm 110°

Diagram **NOT** accurately drawn

a Calculate the area of the fan.

.... cm²

(2)

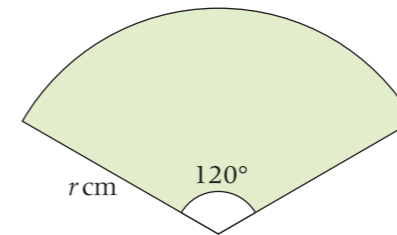Another fan is shaped as a sector of a circle, radius r cm, with angle 120° at the centre.

r cm 120°

Diagram **NOT** accurately drawn

b Show that the total perimeter of this fan is $\frac{2}{3}r(3+\pi)$ cm.

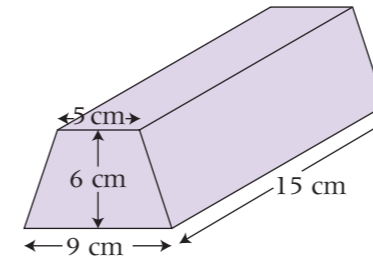(3)

(Total 5 marks)

5

5 cm 6 cm 15 cm 9 cm

Diagram **NOT** accurately drawn

The diagram shows a prism.
The cross section of the prism is a trapezium.
The lengths of the parallel sides of the trapezium are 9 cm and 5 cm.
The distance between the parallel sides of the trapezium is 6 cm.
The length of the prism is 15 cm.

a Work out the area of the trapezium.

.... cm²

(2)

b Work out the volume of the prism.

.... cm³

(2)

(Total 4 marks)
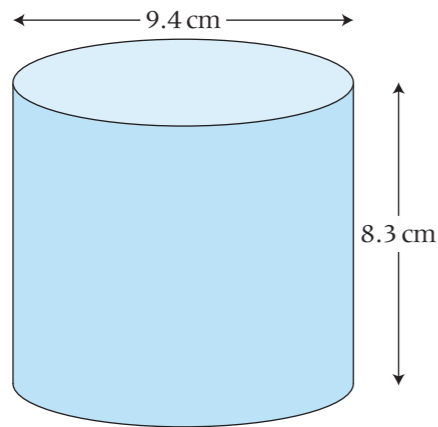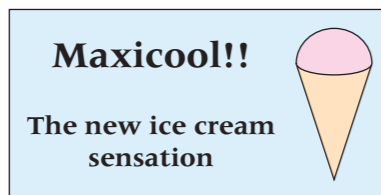
6

9.4 cm

8.3 cm

Diagram **NOT** accurately drawn

A solid cylinder has a diameter of 9.4 cm and a height of 8.3 cm.

Work out the volume of the cylinder.
Give your answer correct to 3 significant figures.

.... cm^3

(Total 3 marks)

7

Maxicool!!

The new ice cream sensation

A Maxicool consists of a cone full of ice cream with a hemisphere of ice cream on top.
The radius of the hemisphere is 3 cm.
The radius of the base of the cone is 3 cm.
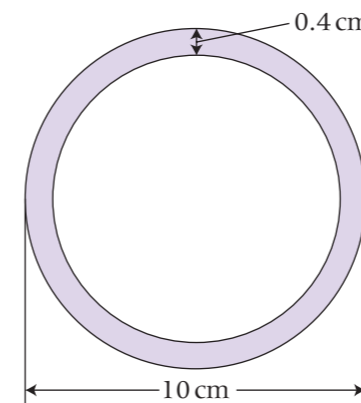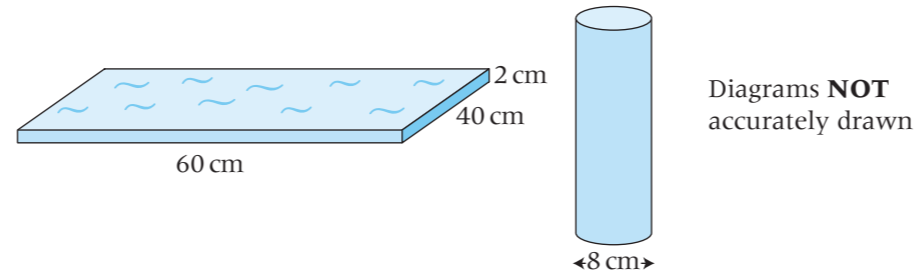The height of the cone is 10 cm.

Diagram **NOT** accurately drawn

10 cm

3 cm

Calculate the total volume of ice cream in a Maxicool.
Give your answer correct to 3 significant figures.

.... cm^3

(Total 4 marks)

8

0.4 cm

Diagram **NOT** accurately drawn

10 cm

The outer diameter of a hollow spherical ball is 10 cm.
The ball is made from rubber which is 0.4 cm thick.

Calculate the volume of rubber needed to make the ball.
Give your answer correct to 3 significant figures.

.... cm^3

(Total 4 marks)

9

Diagrams **NOT** accurately drawn

A rectangular tray has length 60 cm, width 40 cm and depth 2 cm.

It is full of water.

The water is poured into an empty cylinder of diameter 8 cm.

Calculate the depth, in cm, of water in the cylinder.

Give your answer correct to 3 significant figures.

.... cm

(Total 5 marks)