

Q1. a) Explain what is wrong

 with this advert for a

 1 litre carton of

 Orange Juice.

 1 mark

 b) The measurements 10 cm, 6 cm and 15 cm

 are correct.

 All of the juice is poured into this

 cylindrical container with base

 diameter 12 cm and it is found to

 **exactly** half fill it.

 Calculate the height of the container. 4 marks

Q2. A wooden toy box is prism-shaped

 as shown in figure 1.

 The uniform cross-section of the box

 is as shown in figure 2.

 Calculate the volume of the box

 in **cubic metres**. 4 marks



Q3. A storage barn is prism shaped, as shown.

 The cross-section of the storage barn

 consists of a rectangle measuring

 7 metres by 5 metres and a semi-circle

 of radius 3.5 metres.

 a) Find the volume of the storage barn.

 Give your answers in cubic metres,

 **correct to 2 significant figures**. 4 marks

 b) An extension to the barn is planned

 to increase the volume by

 200 cubic metres.

 The uniform cross-section of the

 extension consists of a rectangle

 and a right angled triangle.

 Find the width of the extension. 3 marks



Q4. A ramp is being made from concrete.

 The uniform cross section of the ramp

 consists of a right angled triangle and

 a rectangle as shaded in the diagram.

 Find the volume of concrete required

 to make the ramp. 2 marks