H10

Irvine Royal Academy—Technical Department

Advanced Higher Graphic Communication Homework

CAD Questions

A rendered CAD model of an egg timer is shown.

The model was made using **Bottom Up** modelling.

1 Explain the terms **Top Down** and **Bottom Up** modelling.

Top Down

_____

_____

_____

Bottom Up

_____

_____ [2]

Technical graphics of the glass container and the supporting leg will be used by the manufacturer of the egg timer. These graphics are shown on the **reverse of this page.** The supporting leg is annotated with TOLERANCE A. The glass container is annotated with DATUM FACE B.

2 i Explain why **Tolerance A**, applied to the leg of the egg timer, is different from the general tolerance applied to the dimensions.

_____

_____ [1]

ii Describe two reasons for including **Datum Face B** in the technical graphics used by the manufacturer.

_____

_____

_____ [2]

3 Describe the 3D CAD modelling techniques used to create the **'glass container'**. You must include the terms 'tangent constraint', 'mirror' and 'shell' in your answer. **Refer to the CAD drawings over.** Make reference to relevant dimensions from the drawings in your answer. You may use sketches to support your answer. [6]

4. Describe the 3D CAD modelling techniques used to create the **'supporting leg'** of the egg timer. **Refer to the CAD drawings over**. Make reference to the dimensions from the drawings in your answer. You may use sketches to support your answer. [5]

Answers to Questions 3 and 4 can be completed on blank paper.

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