



General Certificate of Secondary Education  
January 2013

**Engineering**  
Paper 2  
Assessment Unit 3  
*assessing*  
Engineering Technology  
[GEE32]



**THURSDAY 31 JANUARY, AFTERNOON**

Centre Number

71	
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Candidate Number

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**TIME**

1 hour.

**INSTRUCTIONS TO CANDIDATES**

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Answer **all** parts of the one question in this paper.

The paper should be answered in relation to the Pre-Release Material.

You will be provided with a new copy of the Pre-Release Material.

You should **not** bring any of the material previously issued, or any notes made into this examination.

**INFORMATION FOR CANDIDATES**

The total mark for this paper is 40.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Quality of written communication is assessed in **1(h)** and **1(i)**.



**For Examiner's use only**

Question Number 1	Marks
(a)	
(b)	
(c)	
(d)	
(e)	
(f)	
(g)	
(h)	
(i)	

**Total Marks**

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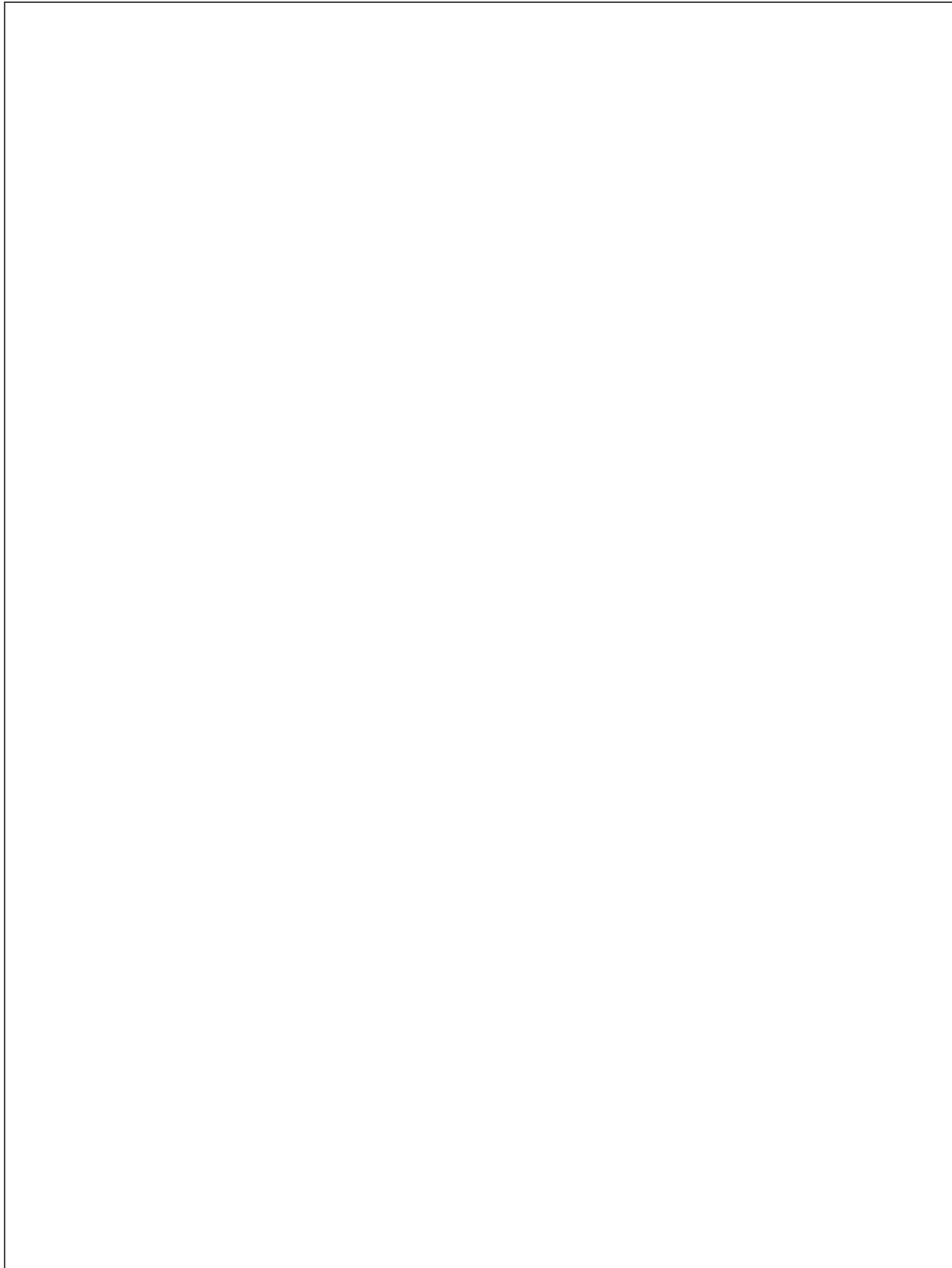


(h) The castors for a shopping trolley are made of thick steel for extra strength and durability. A die machine punches out the castors which will hold the wheels.

In the box below using annotated sketches and correct terminology describe how the die machine punches out the castors which will hold the wheels, and how the wheels are attached to the castors.

Marks will be awarded for

- Detail contained in sketches [4]
- Quality of sketches [3]
- Detailed notes [3]



[10]

Examiner Only	
Marks	Remark

- (i) The red plastic parts of the shopping trolley shown below are manufactured by a process known as injection moulding.



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In the box below using annotated sketches and correct terminology describe the injection moulding process.

Marks will be awarded for

- Detail contained in sketches [4]
- Quality of sketches [3]
- Detailed notes [3]

[10]

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**THIS IS THE END OF THE QUESTION PAPER**

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Examiner Only	
Marks	Remark

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*Rewarding Learning*

**General Certificate of Secondary Education  
2013**

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**Engineering**

**Pre-Release Material**

**Paper 2**

**Assessment Unit 3**

*assessing*

**Engineering Technology**

**[GEE32]**

**JANUARY 2013 AND SUMMER 2013**

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GEE32

You must use **this** clean copy of the Pre-Release Material in the examination and **not** your own annotated copy.



## Engineering Technology Pre-Release Material

The image below shows a “Shopping Trolley”.



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### Description

A shopping trolley is a trolley supplied by a shop, especially supermarkets, for use by customers inside the shop for transporting merchandise to the check-out counter during shopping. Customers can then use the trolley to transport their purchased goods to their cars. Most modern shopping trolleys are made of metal or a combination of metal and plastic, and have been designed to nest within each other in line to facilitate collecting many at one time and also to save on storage. The carts come in many sizes, with larger ones able to carry a child.

### Features include:

- Swivel castors
- Available in different sizes
- Extruded steel bottom structure
- Frame material – steel

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