Compound Measures (F)

A collection of 9-1 Maths GCSE Sample and Specimen questions from AQA, OCR, Pearson-Edexcel and WJEC Eduqas.

Name:	
Total Marks:	

1. 180 g of copper is mixed with 105 g of zinc to make an alloy.

   The density of copper is 9 g/cm^3.

   The density of zinc is 7 g/cm^3.

   (a) Work out the volume of copper used in the alloy.

   (a) .... cm^3 [2]

   (b) What is the density of the alloy?

   (b) .... g/cm^3 [4]

2. Gary drove from London to Sheffield.

   It took him 3 hours at an average speed of 80km/h.

   Lyn drove from London to Sheffield.

   She took 5 hours.

   Assuming that Lyn drove along the same roads as Gary and did not take a break,

   (a) work out Lyn's average speed from London to Sheffield.

   ....km/h

   [3]

(b) If Lyn did not drive along the same roads as Gary, explain how this could affect your answer to part (a).

....

....

....

....

[1]

3. (a) A cube of weight 10N rests on horizontal ground.

The area of each face of the cube is 0·2m².

Calculate the pressure exerted by the cube on the ground.

State the units of your answer.

[3]

(b) A different cube also has a weight of 10 N.

The area of each face of this cube is xm².

Find an expression for the pressure exerted by this cube on the ground.

Give your answer in terms of x.

[1]

4. A box exerts a force of 140 newtons on a table.

The pressure on the table is 35 newtons/m².

Calculate the area of the box that is in contact with the table.

$$p = \frac{F}{A}$$

p = pressure
F = force
A = area

[3]

5. The densities of two different liquids A and B are in the ratio 19 : 22

The mass of 1 cm3 of liquid B is 1.1 g.

$5 cm^3$ of liquid A is mixed with 15 cm^3 of liquid B to make 20 cm^3 of liquid C.

Work out the density of liquid C.

....g/cm^3 [4]

CREDITS AND NOTES

Question	Awarding Body
1	OCR
2	Pearson Edexcel
3	WJEC Eduqas
4	Pearson Edexcel
5	Pearson Edexcel

Notes:

These questions have been retyped from the original sample/specimen assessment materials and whilst every effort has been made to ensure there are no errors, any that do appear are mine and not the exam board s (similarly any errors I have corrected from the originals are also my corrections and not theirs!).

Please also note that the layout in terms of fonts, answer lines and space given to each question does not reflect the actual papers to save space.

These questions have been collated by me as the basis for a GCSE working party set up by the GLOW maths hub - if you want to get involved please get in touch. The objective is to provide support to fellow teachers and to give you a flavour of how different topics "could" be examined. They should not be used to form a decision as to which board to use. There is no guarantee that a topic will or won't appear in the "live" papers from a specific exam board or that examination of a topic will be as shown in these questions.

Links:

AQA http://www.aqa.org.uk/subjects/mathematics/gcse/mathematics-8300

OCR http://ocr.org.uk/gcsemaths

Pearson Edexcel http://qualifications.pearson.com/en/qualifications/edexcel-gcses/mathematics-2015.html

WJEC Eduqas http://www.eduqas.co.uk/qualifications/mathematics/gcse/

Contents:

This version contains questions from:

AQA – Sample Assessment Material, Practice set 1 and Practice set 2

OCR – Sample Assessment Material and Practice set 1

Pearson Edexcel – Sample Assessment Material, Specimen set 1 and Specimen set 2

WJEC Eduqas – Sample Assessment Material