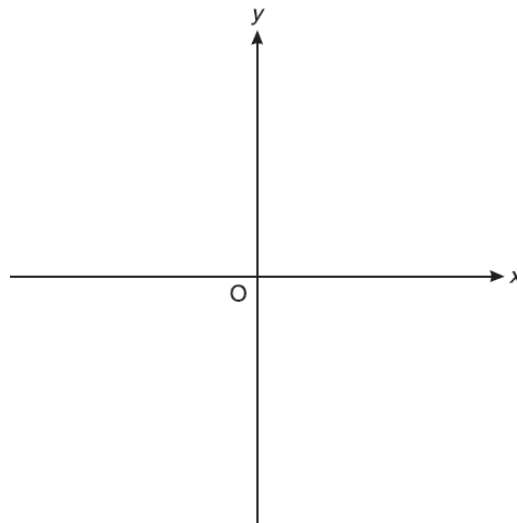# Direct & Inverse Proportion

OJustMaths

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

Name:	
Total Marks:	

1. Sketch a graph on the axes below that shows that y is directly proportional to x.

[2]

2. Six equations are shown below, each labelled with a letter.

A	B	C
$y = {}^{-}6x$	$x = \dfrac{1}{6}y$	$y = \dfrac{{}^{-}3}{x}$

D	E	F
$x = \dfrac{6}{y}$	$y = 6x$	$y = \dfrac{2}{x} + 2$

Choose the correct letters to make this statement true.

Equation .... and equation .... each show x is inversely proportional to y.

[2]

3. This is a conversion graph between pounds and euros.
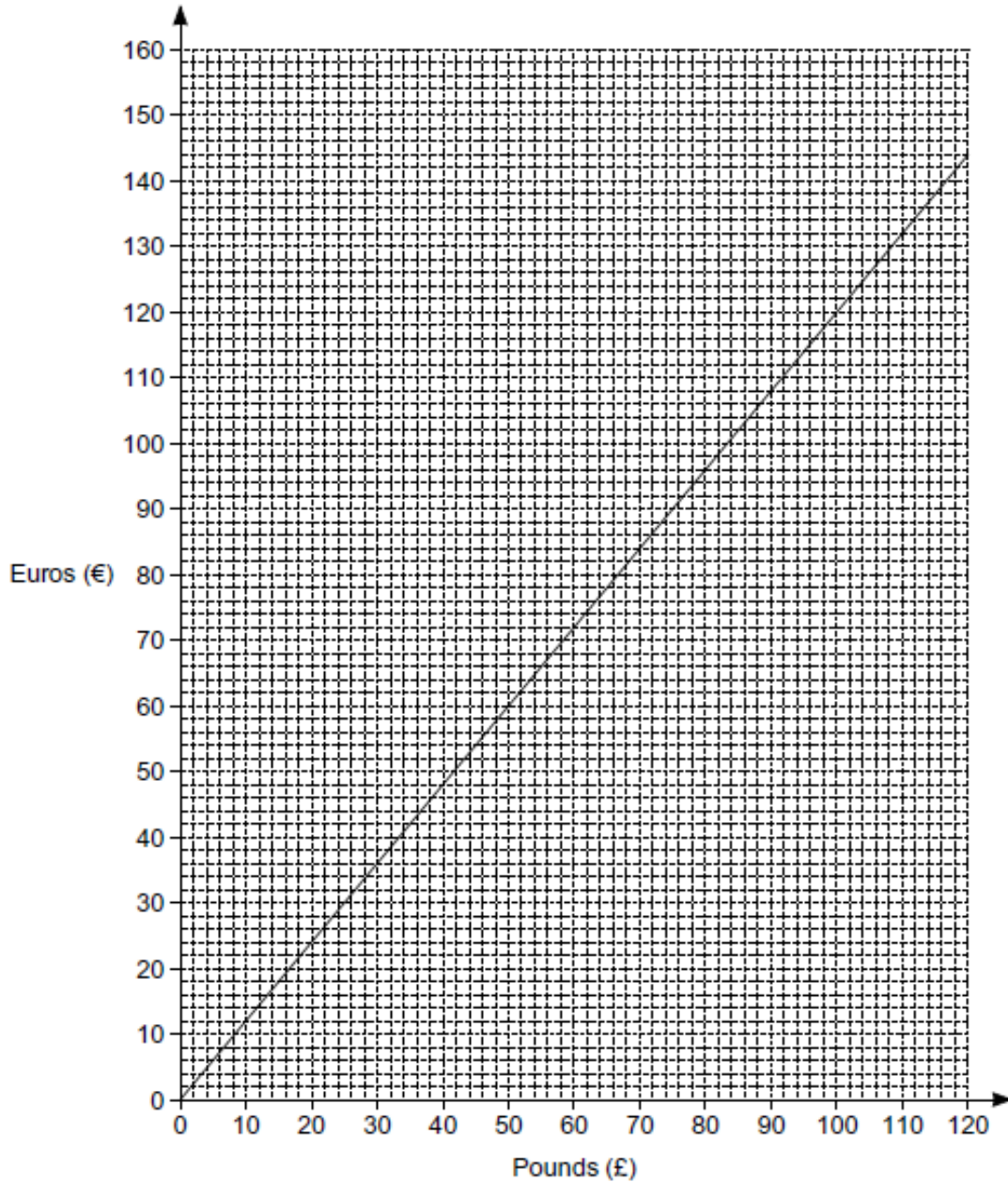
(a) Convert £36 into euros.

(a) € .... [1]

(b) (i) Convert €400 into pounds.

(i) £ .... [3]

(ii) State an assumption that you have made in working out your answer to part (i).

[1]

(c) Explain how the graph shows that the number of euros is directly proportional to the number of pounds.

[2]

4. At a depth of x metres, the temperature of the water in an ocean is T °C.

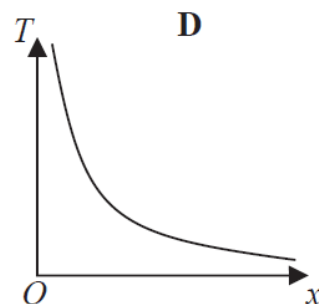At depths below 900 metres, T is inversely proportional to x.
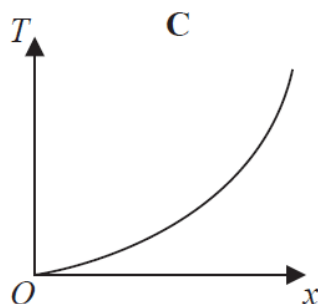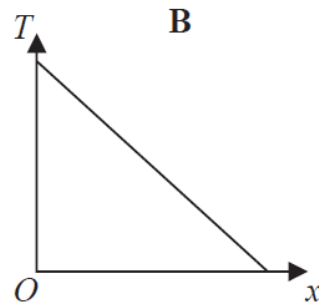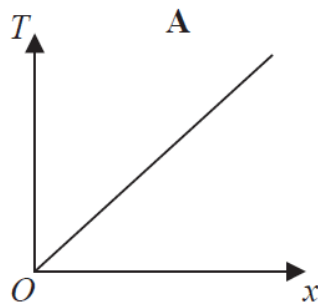
T is given by

$$T = \frac{4500}{x}$$

(a) Work out the difference in the temperature of the water at a depth of 1200 metres and the temperature of the water at a depth of 2500 metres.

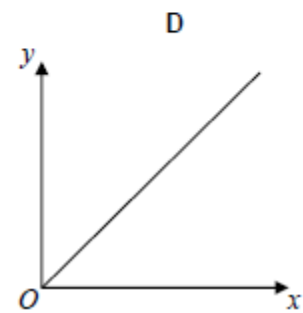..°C [3]
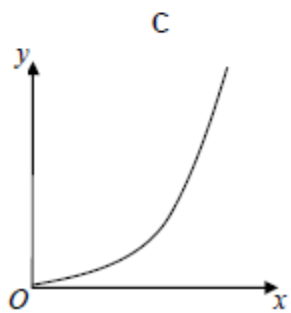
Here are four graphs.
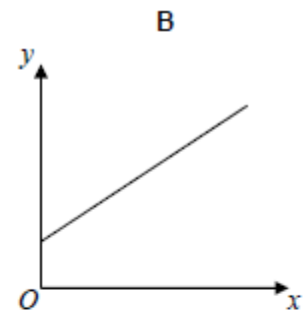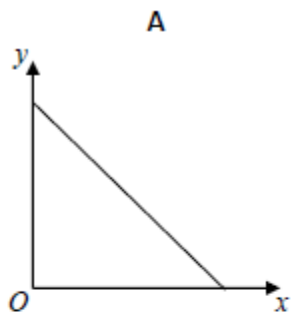

One of the graphs could show that T is inversely proportional to x.

(b) Write down the letter of this graph.

.... [1]

5. y is directly proportional to x.

Which graph shows this?

A

B

C

D

Circle the correct letter.

[1]

CREDITS AND NOTES

Question	Awarding Body
1	OCR
2	OCR
3	OCR
4	Pearson Edexcel
5	AQA

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 and Practice set 1

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