

Exact Value of Trigonometric Ratios (H)

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

Name:	Mel@JustMaths
Total Marks:	

1. Show that $12 \cos 30^\circ - 2 \tan 60^\circ$ can be written in the form \sqrt{k} where k is an integer.

$$\cos 30^\circ = \frac{\sqrt{3}}{2}$$

$$\tan 60^\circ = \sqrt{3}$$

$$12 \cos 30^\circ - 2 \tan 60^\circ$$

$$12 \times \frac{\sqrt{3}}{2} - 2\sqrt{3}$$

$$= 6\sqrt{3} - 2\sqrt{3}$$

$$= 4\sqrt{3}$$

LOOK!! easy to get caught out
 $\sqrt{16} \cdot \sqrt{3}$
 $= \sqrt{48}$ where $k=48$ [3]

2. Write down the exact value of $\tan 60^\circ$.

(a) $\sqrt{3}$ [1]

3. Write down the exact value of $\cos 30^\circ$

$\frac{\sqrt{3}}{2}$ [1]

4. Circle the value of $\cos 30^\circ$

$$\frac{1}{\sqrt{3}}$$

$$\frac{1}{2}$$

$$\frac{\sqrt{3}}{2}$$

$$\frac{2}{\sqrt{3}}$$

[1]

5. Which of these values cannot be the cosine of an angle? Circle your answer.

-0.5

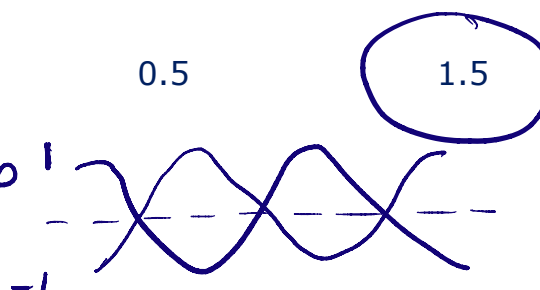
0

0.5

1.5

[1]

remember sin/cosine values!



CREDITS AND NOTES

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