

Higher Mathematics

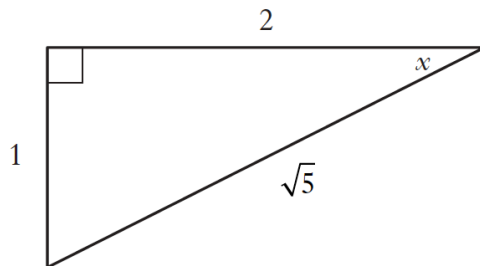
Trigonometric Exact Values - Questions - 2013-2017

Marks are indicated in brackets after each question number

Note that these questions are explicitly about trigonometric exact values. However, exact values also appear in questions about *trigonometric equations* and *trigonometric identities* so it would be worth trying those questions also.

2013 Paper 1 Question 9, (2)

The diagram shows a right-angled triangle with sides and angles as marked.



Find the value of $\sin 2x$.

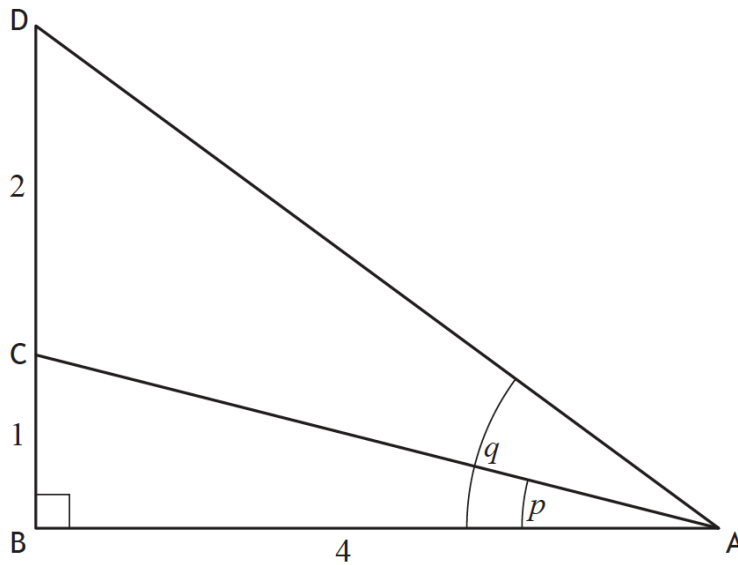
2015 Paper 1 Question 9, (3)

A, B and C are points such that AB is parallel to the line with equation $y + \sqrt{3}x = 0$ and BC makes an angle of 150° with the positive direction of the x -axis.

Are the points A, B and C collinear?

2016 Paper 1 Question 13, (5)

Triangle ABD is right-angled at B with angles $BAC = p$ and $BAD = q$ and lengths as shown in the diagram below.



Show that the exact value of $\cos(q - p)$ is $\frac{19\sqrt{17}}{85}$.