

Questions: Trigonometry (radians)

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Summary

A selection of questions on trigonometry, where angles are measured in degrees.

Before attempting these questions, it is recommended that you read [Guide: Trigonometry \(radians\)](#)

Q1

You are given the triangle below.

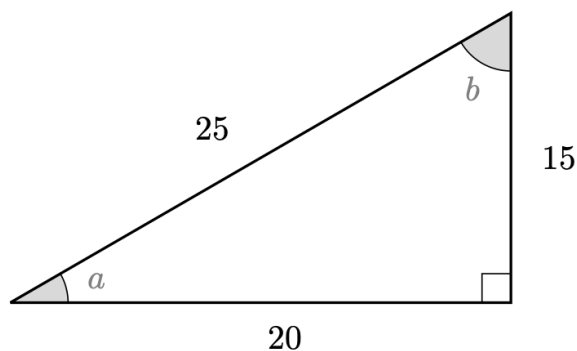


Figure 1: Q1. Triangle

Find \cos , \sin and \tan of both a and b .

Q2

Using the triangle below, solve the following equations.

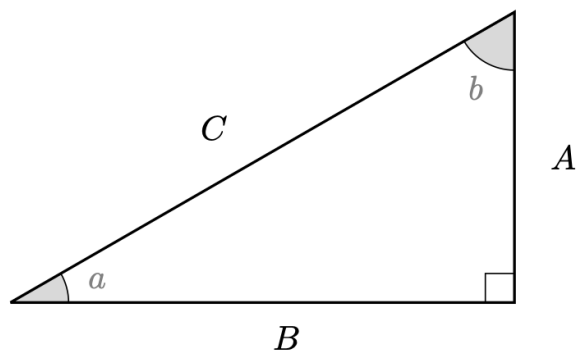


Figure 2: Q2. Triangle

- 2.1. If angle a is $\pi/6$ and $B = 6$, what length is C ?
- 2.2. If angle b is $\pi/4$ and $C = 2\sqrt{2}$, what length is A ?
- 2.3. If angle a is $\pi/12$ and $C = 7$, what length is A ?
- 2.4. If angle b is $\pi/6$ and $C = 2\sqrt{2}$, what length is A ?
- 2.5. If angle a is $\pi/4$ and $B = 8$, what length is A ?
- 2.6. If angle a is $\pi/3$ and $A = 8$, what length is B ?

Q3

Without using a calculator if possible, give the values of the following expressions.

- 3.1. $\cos(\pi/6)$
- 3.2. $\tan(\pi/6)$
- 3.3. $\csc(\pi/4)$
- 3.4. $\cot(\pi/6) - \sin(\pi/3)$
- 3.5. $\sin(\pi/2) + \cos(\pi)$
- 3.6. $\tan(\pi/6) - \cot(\pi/6)$
- 3.7. $\cos(0) \sin(\pi/2)$
- 3.8. $\cos(\pi/6) \sec(\pi/6) - \sin(\pi/4) \csc(\pi/4)$
- 3.9. $\cot(\pi/2)$

[After attempting the questions above, please click this link to find the answers.](#)

Version history and licensing

v1.0: initial version created 08/23 by Dzhemma Ruseva, Ellie Gurini, Ciara Cormican as part of a University of St Andrews STEP project.

- v1.1: edited 05/24 by tdhc, and split into versions for both degrees and radians.

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