

# Questions: Trigonometry (degrees)

Dzhemma Ruseva, Ellie Gurini, Ciara Cormican

## 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](#)

## Q1

You are given the triangle below.

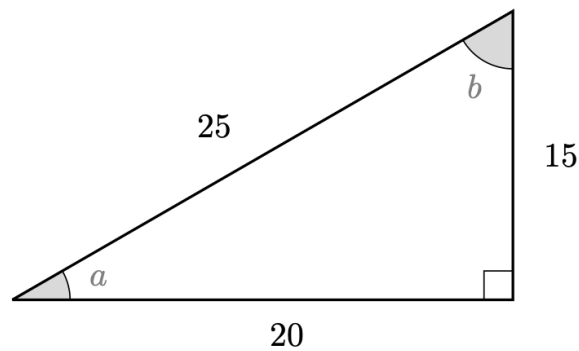


Figure 1: Q1. Triangle

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

## Q2

Using the triangle below, solve the following equations.

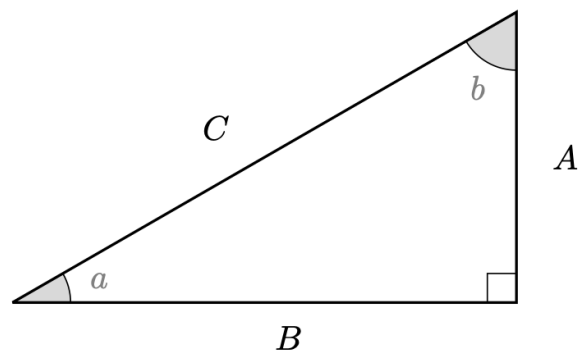


Figure 2: Q2. Triangle

- 2.1. If angle  $a$  is  $30^\circ$  and  $B = 6$ , what length is  $C$ ?
- 2.2. If angle  $b$  is  $45^\circ$  and  $C = 2\sqrt{2}$ , what length is  $A$ ?
- 2.3. If angle  $a$  is  $15^\circ$  and  $C = 7$ , what length is  $A$ ?
- 2.4. If angle  $b$  is  $30^\circ$  and  $C = 2\sqrt{2}$ , what length is  $A$ ?
- 2.5. If angle  $a$  is  $45^\circ$  and  $B = 8$ , what length is  $A$ ?
- 2.6. If angle  $a$  is  $45^\circ$  and  $A = 8$ , what length is  $B$ ?

### Q3

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

- 3.1.  $\cos(30)$
- 3.2.  $\tan(30)$
- 3.3.  $\csc(45)$
- 3.4.  $\cot(30) - \sin(60)$
- 3.5.  $\sin(90) + \cos(180)$
- 3.6.  $\tan(30) - \cot(30)$
- 3.7.  $\cos(0) \sin(90)$
- 3.8.  $\cos(30) \sec(30) - \sin(45) \csc(45)$
- 3.9.  $\cot(90)$

---

[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.

[This work is licensed under CC BY-NC-SA 4.0.](#)