# **Answers: Trigonometry (degrees)**

Dzhemma Ruseva, Ellie Gurini, Ciara Cormican

#### **Summary**

Answers to the questions on trigonometry, using degrees to measure angles.

These are the answers to Questions: Trigonometry (degrees).

Please attempt the questions before reading these answers!

#### Q1

You are given the triangle below.

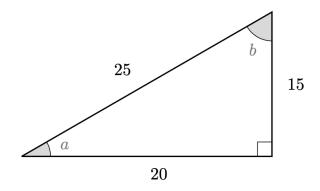


Figure 1: Q1. Triangle

Here,

$$\cos(a) = \frac{4}{5}$$

$$\bullet \ \sin(a) = \frac{3}{5}$$

$$\bullet \ \tan(a) = \frac{3}{4}$$

$$\bullet \ \cos(b) = \frac{3}{5}$$

$$\bullet \ \sin(b) = \frac{4}{5}$$

$$\bullet \ \tan(b) = \frac{4}{3}$$

### Q2

Using the triangle below, solve the following equations.

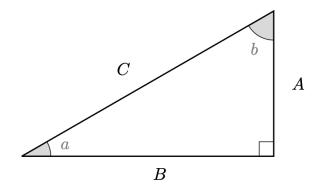


Figure 2: Q2. Triangle

- 2.1. C = 12
- 2.2. A = 2
- 2.3. A = 1.812 (to three decimal places)
- 2.4.  $A = \sqrt{6}$
- 2.5. A = 8
- 2.6.  $B = \frac{8}{\sqrt{3}}$ .

## Q3

3.1. 
$$\cos(30) = \frac{\sqrt{3}}{2}$$

3.2. 
$$\tan(30) = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

3.3. 
$$\csc(45) = 1$$

3.4. 
$$\cot(30) - \sin(60) = \sqrt{3} - \frac{\sqrt{3}}{2} = \frac{\sqrt{3}}{2}$$

3.5. 
$$\sin(90) + \cos(180) = 1 + (-1) = 0$$

3.6. 
$$\tan(30) - \cot(30) = \frac{1}{\sqrt{3}} - \sqrt{3}$$

3.7. 
$$\cos(0)\sin(90) = 1 \cdot 1 = 1$$

3.8. 
$$\cos(30)\sec(30) - \sin(45)\csc(45) = 1 - 1 = 0$$

3.9. 
$$\cot(90) = 0$$