



Trigonometric Functions 2 (Sec, cosec & cot) - Edexcel Past Exam Questions

1. Solve, for
- $0 \leq \theta \leq 180^\circ$
- ,

$$2 \cot^2 3\theta = 7 \operatorname{cosec} 3\theta - 5.$$

Give your answers in degrees to 1 decimal place.

(10)**Jan 12 Q5**

2. (i) (a) Show that
- $2 \tan x - \cot x = 5 \operatorname{cosec} x$
- may be written in the form

$$a \cos^2 x + b \cos x + c = 0$$

stating the values of the constants a , b and c . **(4)**

- (b) Hence solve, for
- $0 \leq x < 2\pi$
- , the equation

$$2 \tan x - \cot x = 5 \operatorname{cosec} x$$

giving your answers to 3 significant figures. **(4)**

- (ii) Show that

$$\tan \theta + \cot \theta \equiv \lambda \operatorname{cosec} 2\theta, \quad \theta = \frac{n\pi}{2}, \quad n \in \mathbb{Z}$$

stating the value of the constant λ .**(4)****June 14(R) Q3**

3. Given that

$$\tan \theta^\circ = p, \text{ where } p \text{ is a constant, } p \neq \pm 1,$$

use standard trigonometric identities, to find in terms of p ,

(a) $\tan 2\theta^\circ$, **(2)**

(b) $\cos \theta^\circ$, **(2)**

(c) $\cot(\theta - 45)^\circ$. **(2)**

Write each answer in its simplest form.

June 15 Q1



4. (a) For $-\frac{\pi}{2} \leq y \leq \frac{\pi}{2}$, sketch the graph of $y = g(x)$ where

$$g(x) = \arcsin x, -1 \leq x \leq 1. \quad (2)$$

- (b) Find the exact value of x for which

$$3g(x + 1) + \pi = 0. \quad (3)$$

June 16 Q7
