

MATH CLUB QUESTIONS

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1.

$$\sin(2n - 4) \cdot \sin(2n - 3) \dots \sin(n) = \\ \forall n \in \mathbb{Z}$$

2. Derive the Quadratic formula for the equation:-

$$ax^2 + bx + c = 0$$

Quadratic formula is:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

3. Evaluate:

$$\sin[\tan^{-1}(-1)]$$

(without using a calculator)

4. Find the solution for:-

$$2 \sin \alpha = \cos \alpha$$

1. Give the number of solutions
2. Find the solutions

5. Find:-

$$\frac{\delta}{\delta x} [\sinh^{-1}[x]]$$

6. Find the derivative using the difference Quotient method for the function

$$f(x) = \sin x$$