

This is not an exam but please write your answers independently.

Index Number:

Name:

Q1. What is the percentage you like the following subject areas out of all the subjects you like (percentages must add up to 100%)

1. Mathematics:
2. Engineering:
3. Other subjects:

Q2. $\sqrt{x^2} =$

Q3. Use $\frac{d}{dx}(\sin x) = \cos x$ to find $\frac{d}{dx}(\sin^{-1} x)$.

$$\text{Q4. } \sum_{k=0}^{\infty} (-1)^k =$$

$$\text{Q5. } \int_{-1}^1 \frac{1}{x} dx =$$

$$\text{Q6. } \int_{-1}^1 \frac{1}{x^2} dx =$$

Q7. Distinct positive integers x, y satisfying $x^y = y^x$ are

$$\text{Q8. } (-1)^\pi =$$