

MATH CLUB QUESTIONS

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1. Find:-

$$\int (\ln x)^3 dx$$

2. Prove that:-

$$2 = 1$$

(explain why this is not true)

3. The product of three real numbers is 15 and the sum of their cubes is 153.

The difference between the two larger numbers is 2.

Find the numbers.

4. Solve the initial value problems:-

$$3y^2 dx + x dy = 0, y(1) = 1/2$$

$$2y^{-1} \cos 2x dx = y^{-2} \sin 2x dy, y(\pi/4) = 3.8$$