- Q1. The equation  $e^{\sin x} e^{-\sin x} 4 = 0$  has
- (a) infinite number of real roots thomas // mothons // mothons // mothons
- (b) no real root
- (c) exactly one real root
- (d) exactly four real roots
- Q2. How many real solutions does the equation  $x^7 + 14x^5 + 16x^3 + 30x 560 = 0$  have?
- (1) 1: mathongo ///. mathongo ///. mathongo ///. mathongo ///.
- (2) 3 mathongo /// mathongo /// mathongo /// mathongo /// mathongo ///
- (3) 5
  (4) 7 mathongo /// mathongo /// mathongo /// mathongo /// mathongo ///
- Q3. The number of distinct real roots of the equation  $3x^4 + 4x^3 12x^2 + 4 = 0$  is
- Q4. The number of real roots of the equation  $e^{4x} + 2e^{3x} e^x 6 = 0$  is:
- Q5. If  $2\frac{2\pi}{\sin^{-1} x} 2(a+2)2^{\frac{\pi}{\sin^{-1} x}} + 8a < 0$  for at least one real x, then
- (a)  $\frac{1}{8} \le a < 2$  mathongo ///. mathongo ///. mathongo ///. mathongo ///.
- (b) a < 2 mathongo /// mathongo // mathongo
- (c)  $a \in R \{2\}$  mathong m mathon m mathong m mathon m mathon
- (d)  $a \in \left(0, \frac{1}{8}\right] \cup [2, \infty)$  // mathongo // mathongo // mathongo //
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