10 Solve the equation $\sqrt{2}\cos(3x+1.2) = 2\sin(3x+1.2)$, where x is in radians, for $-1.5 \leqslant x \leqslant 1.5$. [5]

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11 It is given that $\int_1^a \left(\frac{3}{3x+2} - \frac{2}{2x+1} - \frac{1}{x}\right) \mathrm{d}x = \ln\frac{1}{5}$, where $a > 1$. Find the exact value of a. [6]