Quiz 2 M106 Section 21795

Q1) Evaluate $\int x\cos(7x)dx$

Q2) Evaluate $\int \cos^3(x)\sin^8(x)dx$

Q3) The partial fraction decomposition of $\dfrac{3x-4}{(x-1)(x-2)}$ is $\dfrac{A}{x-1}+\dfrac{B}{x-2}$.
Find A and B

Q4) Evaluate $\int \dfrac{dx}{10+10\cos(x)+3\sin(x)}$

Q5) Determine whether the improper integral $\int_0^\infty xe^{-x^2}dx$ converges or diverges. Find its value in case it converges.