Ideal Flow - I

1. A flow field is given by $\phi = x^3 - 3xy^2$.
a) Is this a solution?
b) Find the velocity field.
c) Find the stream function. Where is the steam function equal to zero?
d) Find the pressure field.

2. A sink is located a distance b above a horizontal wall.
a) What are the potential and stream function solutions?
b) Find the velocity field. What are the velocity components on the wall?
c) Locate any stagnation point(s).
d) What is the pressure field? Plot (sketch) this distribution.