Read each problem very carefully before starting to solve it. Each problem is worth 5 points. It is necessary to show all your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Factor completely the polynomial $x^{3}+3 x^{2}-5 x-15$.
2. Factor completely the polynomial $x^{13}-10 x^{7}+25 x$.
3. Factor completely the following polynomials
(a) $2 x^{2}-17 x+21$
(b) $15 x^{2}-x-6$
