Math 96 Take – Home Test #6 (Chapter 7) Name:

Factor Each Polynomial Completely:

1.) $y^2 - 25$	2.) $x^2 - 4x - 12$	3.) $6ax - 12x - 7ab + 14b$
4.) $7a^3b^2 - 21ab^4 - 14a^2b$	5.) $y^2 - 20y + 36$	6.) $5x^2 + 17x + 14$
7.) $9y^4 - 81$	8.) $5x^2 - 45x - 20$	9.) $49x^4y^6 - 121x^2y^8$
10.) $24x^5 - 52x^4y - 20x^3y^2$	11.) $49p^2 - 84p + 36$	12.) $8x - 16$

Solve each quadratic equation:	
13.) $x^2 + 8x = 0$	14.) $(x-5)(2x+3) = 0$
15.) $(x-4)(x+3) = 18$	16.) $5x^3 - 2x = 3x^2$
17.) The product of two consecutive integers is 4 more than four times their sum. Find the integers.	18.) The long leg of a right triangle is one more than the short leg. The hypotenuse is 3 less than twice the longer leg. Find the length of the sides. (Hint: $a^2 + b^2 = c^2$)