Do your own work. SHOW your work. When in doubt about how stupid I am, assume the worst.

1. Solve the following equations and inequalities. For equations, give the solution as a set. For inequalities, give the solution in set-builder notation and interval notation.
   1. (10 pts) 
   2. (10 pts) 
   3. (10 pts) 
   4. (10 pts) 
   5. (5 pts) 
   6. (5 pts) 
2. Solve the following equations:
   1. (5 pts) 
   2. (5 pts) 
   3. (5 pts) 
3. (5 pts) Solve  for *v*.
4. (10 pts) Combine into one fraction in lowest terms: 
5. Simplify. Assume all variables represent nonzero real numbers. Your final answer should contain only positive exponents.
   1. (10 pts) 
   2. (10 pts) 

Answer up to 3 bonus questions for up to 15 points. I will grade the first 3 you do work on, unless you tell me to omit them.

1. (5 pts) Consider the equation . Write the discriminant.
2. (5 pts) What’s the solution of the equation ?
3. (5 pts) Factor  into the product of two binomials.
4. (5 pts) Factor 
5. (5 pts) Use Pascal’s triangle to expand 
6. (5 pts) Factor  (It doesn’t factor over the rationals! Your ‘ac’ method won’t work!).