Math 134 Spring 2018
Krystin Manguba-Glover
Classwork 10 Name: _____

Work on as many problems as you can together with your group members. Towards the end of lecture your group will be asked to present a problem correctly to receive classwork points.

1. Solve the polynomial equations by factoring:
   (a) $98x - 49 = 2x^3 - x^2$
   (b) $18x - 9 = 2x^3 - x^2$
   (c) $25y^3 - 3 = y - 75y^2$
   (d) $x^3 + x^2 = 4x + 4$
   (e) $3x - 1 = x^3 - x^2$
2. Solve the following radical equations and check all proposed solutions.
   (a) $\sqrt{35 - 2x} = x$
   (b) $\sqrt{2x + 19} - 8 = x$
   (c) $\sqrt{x + 6} - 4 = x$
   (d) $\sqrt{2x + 3} + \sqrt{x - 2} = 2$
   (e) $\sqrt{x + 8} - \sqrt{x - 4} = 2$
3. Solve the following equations with rational exponents.
   (a) $x^{3/2} = 125$
   (b) $(x - 4)^{3/2} = 27$
   (c) $6x^{7/4} - 30 = 0$
   (d) $x^{3/2} = 64$
   (e) $(x - 6)^{5/2} = 32$
4. Use substitution to solve the following equations:
   (a) $x - 8\sqrt{x} + 12 = 0$
   (b) $4x^4 = 13x^2 - 9$
   (c) $x^4 - 13x^2 + 36 - 0$
   (d) $(x + 3)^2 + 12(x + 3) + 35 = 0$
   (e) $x^{-2} - 5x^{-1} - 6 = 0$
5. Solve the following equations.
   (a) $|x| = 13$
   (b) $|x| = 10$
   (c) $|x + 1| + 6 = 5$
   (d) $|x + 4| + 8 = 6$
   (e) $5|2x - 3| = 5$