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 problems correctly to receive classwork points.

1. Solve the linear equation: $3x + 4 = 2(4x - 3)$

2. Solve the formula for m: $4m - D = n$

3. Solve the following equations, and determine if they're identity, conditional, or inconsistent
   equations.

   (a) $4x + 3 = 2(2x + 1)$

   (b) $3x + 1 = 10x - 6$

   (c) $\frac{1}{2}(6x + 4) - 1 = 3x + 1$

4. Graph the equation $|4x - 2| = y$. (Hint: Make a table and plot the points.) What are the
   x and y intercepts?

5. Consider the equation
$$\frac{x}{2x + 1} - \frac{2}{2x + 1} = -5$$

   (a) Find the restrictions on x.

   (b) Keeping the restrictions in mind, solve the equation.

6. Solve the following quadratic equation by completing the square: $x^2 + 6x = -10$

7. Find the discriminant of the following equation. Determine the number and type of solu-
   tions, and then solve the equation: $2x^2 - 20x + 4 = 0$

8. Find all the roots (i.e. solve the equation): $x^{2/3} + 9x^{1/3} + 8 = 0$

9. Solve the equation: $3x^{1/4} - 2 = 13$

10. Find the real solutions of the equation: $\sqrt{7x - 6} = x$

11. Find the solutions of the equation: $|3x + 4| = 2$

12. Solve the following absolute value inequality: $9 > |3x - 1|$

13. Roger works at a bagel factory making $16 an hour. He wants to make at least $200 this
    week. If he has already worked 9 hours this week, how many more does he have to work
    to make at least $200?

14. Benny has spent $167 on food this month, including groceries and restaurants. He has
    spent $35 more on restaurants than twice the amount he has spent on groceries. How
    much has he spent on groceries and restaurants?