Explorations in Core Math

Short Answers (5 pts each)

1. Solve the system by graphing.
   \[ \begin{align*}
   y & = -\frac{2}{3} x + 2 \\
   8x + 3y & = -12
   \end{align*} \]

2. Solve the system using the substitution method.
   \[ \begin{align*}
   x - 2y & = -3 \\
   3x + 7y & = 4
   \end{align*} \]

3. Solve the system using the elimination method.
   \[ \begin{align*}
   -4x + 10y & = -8 \\
   2x - 7y & = 12
   \end{align*} \]
Explorations in Core Math

Constructed Response (10 pts)

1) The Bulldog track team is putting on a talent show for a fundraiser. They sold student tickets for $10 each and adult tickets for $20 each. It was unknown how many of students and adults came to the talent show. The students do know that a total of 70 people were in attendance and they made a total of $1000 with ticket sales. Let x represent the total number of students that attended and y represents the total number of adults that attended.

a) Write a system of linear equations (in standard form) that represents this situation. (3 pts)
   HINT: one equation should represent the attendance at the play and one equation should represent the amount of money made at the play.

b) Graph the system of equations. (5 pts)

c) How many students (x) came to the play and how many adults (y) came to the play? Check your work. (2 pts)