Math 135:06, Quiz #1 10 points Name _____
Jan. 24, 2002 Show all work!

1. (5 pts.) Simplify the expression $\frac{x^2+x-2}{x^2-4}$.

   Solution:

$$\frac{x^2+x-2}{x^2-4} = \frac{(x+2)(x-1)}{(x+2)(x-2)} = \frac{x-1}{x-2}.$$

2. (5 pts.) Find the equation of the line passing through $(3, 7)$ and parallel to the line $y = 2x + 5$. Put the equation in the form $y = mx + b$.

   Solution:

   Since the line is parallel to $y = 2x + 5$, it has the same slope, which is 2. Thus our line is of the form $y = 2x + b$, and we must solve for b, the y *intercept*, by plugging in the point given.

$$\begin{aligned} y &= 2x + b \\ 7 &= 2(3) + b \\ 1 &= b \end{aligned}$$

   Thus, the equation is $y = 2x + 1$.