AAU - Business Mathematics I

Problem set #2, Due March 18, 2010

1. Solve the following linear equations:

(a) $10x + 5 = 8x + 11$

(b) $-2x - 4 = -3x + 2$

2. Solve the following systems of linear equations:

(a) $3x + 2y = 7$
$7x - y = 5$

(b) $2x + 3y = 0$
$-2/3x - y = 1$

3. Solve:

(a) $2x^2 - 3x + 1 = 0$

(b) $x^2 - 2x - 8 = 0$

(c) $2x^2 - 32 = 0$

(d) $(x - 3)(x + 1) = 0$

4. Solve the following inequalities:

(a) $2x - 3 < x + 1 \leq 6$

(b) $-x^2 - x + 2 > 0$

(c) $x^2 - 3x + 2 > 0$

5. Ben can drink 3 beers per hour. How many hours did he spend in the pub yesterday night if he drank either at most 12 or at least 15 beers?

6. Solve:

(a) $|x - 3| - 2 = 0$

(b) $|x - 2| - |x + 1| + 3 = 0$

(c) $|x + 1| < 4$

(d) $\dfrac{2 - 2x}{1 - x} \leq 1$