

**1.**

[6 points]

Solve the following equations (using any method):

(a)  $3x^2 = 2x$

(b)  $100x^2 - 49 = 0$

(c)  $x^2 + 3x + 11 = 0$

**2.**

[6 points]

Solve the following equations. You have to use factorization in (a), completing the square in (b) and quadratic formula in (c):

(a)  $3x^2 + 2x = 8$

(b)  $x^2 - 4x + 1 = 0$

(c)  $3x^2 - x = 1$

**3.**

[6 points]

Solve the following equations (state the necessary assumptions):

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

(b)  $(2x-3)^2 = (x-4)(x+4) + 13$