35a) $x_1 = 2i$, $x_2 = -2i$ b) $x_{1,2} = \pm i\sqrt{3}/5$ c) $x_{1,2} = \pm i\sqrt{3}/2$

d) $x_{1,2} = \pm\sqrt{3}/2$ e) $x_1 = 2 + 3i$, $x_2 = 2-3i$ f) $x_{1,2} = -1 \pm 2i$,

g) $x_{1,2} = \pm 2$, $x_{3,4} = \pm 2i$.

36a) $2+5i$ b) $7-11i$ c) $-7-24i$ d) $\frac{1}{2}-\frac{i}{2}$ e) $\frac{1}{17} + \frac{4}{17}i$ f) $-\frac{1}{17} + \frac{13}{17}i$

g) $\frac{61}{170} + i\frac{23}{170}$.

37a) $x_1 = 1$, $x_2 = -4$ b) $x_1 = 3$, $x_2 = -1$ c) $x_1 = 3/2$, $x_2 = -1$,

d) $x_1 = 0$, $x_2 = -3/7$ e) $x_1 = x_2 = 3/2$ f) $x_{1,2} = (-3 \pm\sqrt{29})/10$.

38a) $x_1 = -1 + i$, $x_2 = -1-i$ b) $x_{1,2} = (-3 \pm i\sqrt{11})/10$ c) $x_{1,2} = (3\pm i\sqrt{3})/6$

39a) $x_1 = 1$, $x_2 = -4$ b) $x_{1,2} = 6 \pm 3\sqrt{3}$ c) $x_{1,2} = (1\pm i\sqrt{11})/6$

40a) $y = x/3$ eller $y = -2x$ b) $y = 2x-1$ eller $y = -5x$

c) $y = 2x-1$ eller $y = (1-x)/2$ d) $y = [4-x\pm\sqrt{5-4(x+1)^2}]/5$, för

$|x+1| \le \sqrt{5}/2$.

41a) $(x-2)(x+3)$ b) $-2(x-1)(x+4)$ c) $(x-\frac{1}{2}-\frac{\sqrt{5}}{2})(x-\frac{1}{2}+\frac{\sqrt{5}}{2})$ d) x^2+x+1.

42a) $x^2+3x-10 = 0$ b) $6x^2-x-2 = 0$ c) $x^2-2x-4 = 0$ d) $x^2-4x+5 = 0$

44a) $x_{1,2} = \pm 2$, $x_{3,4} = \pm\sqrt{3}$ b) $x_{1,2} = \pm 7$, $x_{3,4} = \pm 5$ c) $x_{1,2} = \pm 2$,

$x_{3,4} = \pm i\sqrt{3}$ d) $x_1 = x_2 = \sqrt{6}$, $x_3 = x_4 = -\sqrt{6}$ e) $x_{1,2} = \pm\sqrt{6}/2$, $x_{3,4} = \pm i/\sqrt{3}$

45a) $x_1 = 1$, $x_2 = 2$ b) $x_1 = 0$, $x_2 = 1$ c) $x = 19-6\sqrt{10}$

46a) $x_1 = 0$, $x_{2,3} = (-3\pm\sqrt{5})/2$ b) $x_1 = 1$, $x_2 = 3$, $x_3 = -2$

c) $x_1 = -2$, $x_{2,3} = (-5\pm\sqrt{21})/2$ d) $x_1 = 2$, $x_{2,3} = (1\pm i\sqrt{11})/2$

e) $x_1 = 1$, $x_2 = -2$, $x_{3,4} = \pm i\sqrt{2}$ f) $x_1 = 2$, $x_2 = x_3 = -3$

47a) $x_1 = x_2 = x_3 = 1$ b) $x_1 = 1$, $x_{2,3} = (-1\pm i\sqrt{3})/2$ c) $x_1=x_2=x_3=i$,

$x_4 = x_5 = x_6 = -i$ d) $x_1 = x_2 = -1$, $x_3 = x_4 = (1+i\sqrt{3})/2$,

$x_5 = x_6 = (1-i\sqrt{3})/2$

48a) $(x-1)(x-3)(x+2)$ b) $(x+2)(x+5/2-\sqrt{21}/2)(x+5/2+\sqrt{21}/2)$

c) $(x+2)(2x^2+1)$ d) $-(x-2)(x^2-x+3)$ e) $-2(x+1)^2\cdot(x^2+3)$

49a) $x = 2$ b) $x = 4$ c) $x = 12$ d) $x = 3$ e) $x = (5-\sqrt{13})/6$ f) $x = 6$

50a) $x = 5/2$, $y = 1/2$ b) $\begin{cases} x_1 = (3+\sqrt{3})/2 \\ y_1 = (-1+\sqrt{3})/2 \end{cases}$ $\begin{cases} x_2 = (3-\sqrt{3})/2 \\ y_2 = (-1-\sqrt{3})/2 \end{cases}$

c) $\begin{cases} x_1 = \sqrt{13} \\ y_1 = -2 \end{cases}$ $\begin{cases} x_2 = -\sqrt{13} \\ y_2 = -2 \end{cases}$ $\begin{cases} x_3 = -2 \\ y_3 = 1 \end{cases}$ $\begin{cases} x_4 = 3 \\ y_4 = -4 \end{cases}$

d) $\begin{cases} x_1 = 0 \\ y_1 = \sqrt{2} \end{cases}$ $\begin{cases} x_2 = 0 \\ y_2 = -\sqrt{2} \end{cases}$ $\begin{cases} x_3 = (3+\sqrt{21})/4 \\ y_3 = (-1+\sqrt{21})/4 \end{cases}$ $\begin{cases} x_4 = (3-\sqrt{21})/4 \\ y_4 = (-1-\sqrt{21})/4 \end{cases}$

e) $\begin{cases} x_1 = 0 \\ y_1 = \sqrt{5} \end{cases}$ $\begin{cases} x_2 = 0 \\ y_2 = -\sqrt{5} \end{cases}$ $\begin{cases} x_3 = 1/2 \\ y_3 = 2 \end{cases}$ $\begin{cases} x_4 = -1/2 \\ y_4 = -2 \end{cases}$

51a) $-1/2 \le x \le 1$ b) $(-1-\sqrt{5})/2 < x < (-1+\sqrt{5})/2$ c) gäller ej för

något x d) alla $x \ne 1$ e) $0 < x < 1$ och $x > 2$ f) $x < -1/2$

och $1/3 < x < 3$ g) $-2 \le x < 2$ och $x \ge 3$ h) $-1 < x \le 2$

i) $\sqrt{2} < x < 2$

52a) 3 b) $1/2$ c) 2 d) $1/2$ e) 9 f) $1/9$ g) 5

53a) $\sqrt[3]{3}$ b) $\sqrt{2}$ c) $-2\cdot\sqrt[3]{3}$ d) $\sqrt[12]{3} = 3^{1/12}$ e) $\sqrt[10]{2} = 2^{1/10}$

f) $\sqrt[8]{5} = 5^{1/8}$ g) $\sqrt[3]{4} = 2^{2/3}$ h) $2\cdot\sqrt[3]{3}$

54a) $x_{1,2} = \pm\sqrt{2}$ b) $x_1 = 3$ c) $x_{1,2} = \pm\sqrt{3}/2$ d) $x_1 = -2$ e) saknar

reella rötter

55a) $3a$, alla a b) $\sqrt[4]{x} = x^{1/4}$, $x > 0$ c) $\sqrt[15]{x} = x^{1/15}$, alla x

d) $\sqrt{|a|}$, alla a e) $a^{5/12} = \sqrt[12]{a^5}$, $a > 0$ f) $x^{3/4} = \sqrt[4]{x^3}$, $x \ge 0$

56a) 0 b) $e^0 = 1$ c) 1

58a) $x = 6$ b) $x = 3/2$ c) saknar reell lösning d) $x = 0$ e) $x = 3$

f) saknar reell lösning g) $x = -1/3$

59a) $x = 0$ b) $x_1 = 0$, $x_2 = 1$ c) $x = -1$ d) $x_1 = 0$, $x_2 = 3$

e) $x = 0$

60a) 3 b) -2 c) 4 d) $0,7$ e) $1/4$ f) 2

61a) 2 b) $1/2$ c) -1 d) -2 e) 7 f) $1/3$

62a) $x = 1$ b) $x = 10$ c) $x = e^2$ d) $x = 0,0001$ e) $x = 10\cdot\sqrt{10}$

63a) $x = \lg 4$ b) $x = \ln(1,5)$ c) $x = \lg 2$ d) $x = \lg 3$ e) $x = \ln 2$