PRO'2011 HW-01, varianta ( ) | Jméno: | Body:

1. Vynásobte polynomy f a g

$$f = 1 + 5\,x + 3\,x^2 + 2\,x^4$$

$$g = x^2 - 5$$

2. Vydělte polynom f polynomem g

$$f = -2 - 24\,x - 14\,x^2 + 5\,x^3 - 7\,x^4 + 2\,x^6$$

$$g = x^2 - 5$$

3. Vypočítejte charakteristický polynom $f(\lambda)$ matice

$$A = \begin{pmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \\ \mathrm{a} & \mathrm{b} & \mathrm{c} & \mathrm{d} \end{pmatrix}$$

4. Nejděte řešení rovnice $f(\lambda) = 0$ z příkladu 3 pro
   $a = -18$, $b = 9$, $c = 11$, $d = -1$.

5. Vyřešte rovnici

```
                 4       3       2
1               x  - 10 x  + 35 x  - 50 x + 24
                 4      3       2
2               x  - 8 x  + 17 x  + 2 x - 24
                 4      3      2
3               x  - 6 x  + 3 x  + 26 x - 24
                 4      3      2
4               x  - 4 x  - 7 x  + 34 x - 24
                 4      3       2
5               x  - 2 x  - 13 x  + 38 x - 24
                 4      3      2
6               x  - 4 x  - 7 x  + 22 x + 24
                 4      3       2
7               x  - 2 x  - 13 x  + 14 x + 24
                 4       2
8               x  - 15 x  + 10 x + 24
                 4       2
9               x  - 15 x  - 10 x + 24
                 4      3       2
10              x  + 2 x  - 13 x  - 14 x + 24
                 4      3      2
11              x  + 4 x  - 7 x  - 22 x + 24
                 4      3       2
12              x  + 2 x  - 13 x  - 38 x - 24
                 4      3      2
13              x  + 4 x  - 7 x  - 34 x - 24
                 4      3      2
14              x  + 6 x  + 3 x  - 26 x - 24
                 4      3       2
15              x  + 8 x  + 17 x  - 2 x - 24
                 4       3       2
16              x  + 10 x  + 35 x  + 50 x + 24
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$$17 \quad x^4 - 9x^3 + 27x^2 - 31x + 12$$

$$18 \quad x^4 - 8x^3 + 21x^2 - 22x + 8$$

$$19 \quad x^4 - 7x^3 + 17x^2 - 17x + 6$$

$$20 \quad x^4 - 11x^3 + 44x^2 - 76x + 48$$

$$21 \quad x^4 - 9x^3 + 28x^2 - 36x + 16$$

$$22 \quad x^4 - 8x^3 + 23x^2 - 28x + 12$$

$$23 \quad x^4 - 12x^3 + 53x^2 - 102x + 72$$

$$24 \quad x^4 - 11x^3 + 43x^2 - 69x + 36$$

$$25 \quad x^4 - 9x^3 + 29x^2 - 39x + 18$$

$$26 \quad x^4 - 12x^3 + 52x^2 - 96x + 64$$

$$27 \quad x^4 - 11x^3 + 42x^2 - 64x + 32$$

$$28 \quad x^4 - 11x^3 + 42x^2 - 64x + 32$$

$$29 \quad x^4 + 9x^3 + 27x^2 + 31x + 12$$

$$30 \quad x^4 + 8x^3 + 21x^2 + 22x + 8$$

$$31 \quad x^4 + 7x^3 + 17x^2 + 17x + 6$$

$$32 \quad x^4 + 11x^3 + 44x^2 + 76x + 48$$

$$33 \quad x^4 + 9x^3 + 28x^2 + 36x + 16$$

$$34 \quad x^4 + 8x^3 + 23x^2 + 28x + 12$$

$$35 \quad x^4 + 12x^3 + 53x^2 + 102x + 72$$

$$36 \quad x^4 + 11x^3 + 43x^2 + 69x + 36$$

$$37 \quad x^4 + 9x^3 + 29x^2 + 39x + 18$$

$$38 \quad x^4 + 12x^3 + 52x^2 + 96x + 64$$

$$39 \quad x^4 + 11x^3 + 22x^2 + 64x + 31$$

$$40 \quad x^4 + 12x^3 + 12x^2 + 63x + 32$$

$$41 \quad x^4 + 19x^3 + 42x^2 + 62x + 12$$

$$42 \quad x^4 + 13x^3 + 32x^2 + 61x + 13$$

$$43 \quad x^4 + 18x^3 + 37x^2 + 59x + 14$$

$$44 \quad x^4 + 14x^3 + 23x^2 + 58x + 43$$

$$45 \quad x^4 + 17x^3 + 31x^2 + 57x + 21$$

$$46 \quad x^4 + 3x^3 + 34x^2 + 53x + 54$$

$$47 \quad x^4 + 7x^3 + 29x^2 + 13x + 13$$

$$48 \quad x^4 + 9x^3 + 25x^2 + 63x + 84$$

$$49 \quad x^4 + 11x^3 + 11x^2 + 25x + 23$$

$$50 \quad x^4 + 10x^3 + 5x^2 + 14x + 95$$

$$51 \quad x^4 + 9x^3 + 3x^2 + 76x + 5$$

$$52 \quad x^4 + 8x^3 + 17x^2 + 31x + 17$$

$$53 \quad x^4 + 7x^3 + 13x^2 + 25x + 42$$

$$54 \quad x^4 + 6x^3 + 11x^2 + 56x + 86$$

$$55 \quad x^4 + 5x^3 + 7x^2 + 4x + 16$$

$$56 \quad x^4 + 4x^3 + 5x^2 + 7x + 47$$

$$57 \quad x^4 + 3x^3 + 17x^2 + 2x + 51$$

$$58 \quad x^4 + 2x^3 + 13x^2 + 7x + 83$$

$$59 \quad x^4 + 13x^3 + 32x^2 + 0x + 16$$

$$60 \quad x^4 + 17x^3 + 21x^2 + 1x + 74$$