

| A |  |   | B   |   |   |  |
|---|--|---|---|---|---|--|
| 1 | $\begin{aligned} &3a + b + 4a + 2b \\ \text{Zjednoduř} &(4ab + a - 2) + (ab - b - 3) \\ &(4x + 2y) + (2x - y) \end{aligned}$   | $\begin{aligned} &7a + 3b \\ &5ab + a - b - 5 \\ &6x + y \end{aligned}$   | 1<br>1<br>2<br><b>Celkem 4</b>                          | 1 | $\begin{aligned} &(4x + y + z) + (3y + z) \\ \text{Zjednoduř} &(a^2 + 2ab) + (b^2 + ab) \\ &(5x - 3y) + (4y - z) \end{aligned}$   | $\begin{aligned} &4x + 4y + 2z \\ &a^2 + 3ab + b^2 \\ &5x - y - z \end{aligned}$   |
| 2 | $\begin{aligned} &\text{Uprav vřaz} \\ &(-2n^2) + (-5n) + (-n^2) + 3n^2 - (6n^2) \\ &(0,3a)^2 - 2a^2b + (0,1a)^2 + 2a^2b - (3a)^2 - a^2b \\ &5n^3 - 7 + n - 2n^2 + n + 6 + 2n^2 + 3 \end{aligned}$ | $\begin{aligned} &-6n^2 - 5n \\ &0,09a^2 - 0,01a^2 - 9a^2 - a^2b = \\ &= -8,92a^2 - a^2b \\ &5n^3 + 2n + 2 \end{aligned}$   | 2<br>3<br><br>2<br><b>Celkem 7</b>                      | 2 | $\begin{aligned} &\text{Uprav vřaz} \\ &4k^2 - 19k + 32k^3 - k^2 + 6k - 8k^3 \\ &(2xy)^2 - 2,5y - (xy)^2 + 0,3x + xy + 3y - 0,3x \\ &- p^3 - 2p + 8p^2 + 10p - 7p^2 - 3p^3 - 7p \end{aligned}$                | $\begin{aligned} &24k^3 + 3k^2 - 13k \\ &4x^2y^2 - 2,5y - x^2y^2 + 0,3x + xy + 3y - 0,3x = \\ &= 3x^2y^2 + xy + 0,5y \\ &- 4p^3 + p^2 + p \end{aligned}$   |
| 3 | $\begin{aligned} &\text{Vřaz } 7t^3 - 2t^2 - 11t^3 + 3t^2 - 13 \\ &\text{zjednoduř a sprřvnost ovř dosazením } t = -2 \end{aligned}$   | $\begin{aligned} &7t^3 - 2t^2 - 11t^3 + 3t^2 - 13 = -4t^3 + t^2 - 13 \\ &t = -2 \\ &7(-2)^3 - 2(-2)^2 - 11(-2)^3 + 3(-2)^2 - 13 = \\ &= 7 \cdot (-8) - 2 \cdot 4 - 11 \cdot (-8) + 3 \cdot 4 - 13 = \\ &= -56 - 8 + 88 + 12 - 13 = \underline{\underline{23}} \\ &-4t^3 + t^2 - 13 = -4 \cdot (-2)^3 + (-2)^2 - 13 = \\ &= -4 \cdot (-8) + 4 - 13 = 32 + 4 - 13 = \underline{\underline{23}} \end{aligned}$ | řprava 2<br>dosazení 3<br>dosazení 2<br><b>celkem 7</b> | 3 | $\begin{aligned} &\text{Vřaz} \\ &3m^2 - 2m^3 + 4m + 12 - m^2 - m^3 \\ &\text{zjednoduř a sprřvnost ovř dosazením} \\ &m = 3 \end{aligned}$   | $\begin{aligned} &3m^2 - 2m^3 + 4m + 12 - m^2 - m^3 = \\ &= -3m^3 + 2m^2 + 4m + 12 \\ &3 \cdot 3^2 - 2 \cdot 3^3 + 4 \cdot 3 + 12 - 3^2 - 3^3 = \\ &= 3 \cdot 9 - 2 \cdot 27 + 12 + 12 - 9 - 27 = \\ &= 27 - 54 + 12 + 12 - 9 - 27 = \underline{\underline{-39}} \\ &-3m^3 + 2m^2 + 4m + 12 = \\ &= -3 \cdot 27 + 2 \cdot 9 + 4 \cdot 3 + 12 = -81 + 18 + 12 + 12 = \\ &= \underline{\underline{-39}} \end{aligned}$ |
| 4 | $\begin{aligned} &\text{Urči hodnotu vřazu } 7(x - y) \text{ pro } x = 9 \text{ a} \\ &y = 7 \end{aligned}$  | $7(9 - 7) = 7 \cdot 2 = 14$   | 2   | 4 | $\begin{aligned} &\text{Urči hodnotu vřazu } -3x + 9y \text{ pro} \\ &x = 7 \text{ a } y = -3 \end{aligned}$  | $-3 \cdot 7 + 9 \cdot (-3) = -21 - 27 = -48$   |
| 5 | $\begin{aligned} &\text{a) } (4m^3n^2)^3 \quad \text{b) } x^4x^3 \quad \text{c) } (-2)^5 : (-2)^2 \\ &\text{d) } 5^0 \cdot 5^1 \cdot 5^2 \quad \text{e) } t^2 \cdot t \cdot t^5 \end{aligned}$     | $\begin{aligned} &64m^9n^6 \quad x^7 \quad -2^3 \\ &5^3 \quad t^8 \end{aligned}$  | bod<br><b>Celkem 5</b>                                  | 5 | $\begin{aligned} &\text{Uprav} \\ &\text{a) } (-2xy^3)^2 \quad \text{b) } a^7 \cdot a^3 \quad \text{c) } m^7 : m^5 \\ &\text{d) } 2 \cdot 2^2 \cdot 2^4 \quad \text{e) } a^2 \cdot a^3 \cdot a \end{aligned}$ | $\begin{aligned} &4x^2y^6 \quad a^{10} \quad m^2 \\ &2^7 \quad a^6 \end{aligned}$  |
| 6 | $\begin{aligned} &\text{a) } 15m^5n^3 : 5m^3n^2 \quad \text{b) } 9x : (-3x^2) \\ &\text{c) } (-5b^3) \cdot 4b^4 \end{aligned}$   | $\begin{aligned} &3m^2n \quad -3x^{-1} \quad -20b^7 \end{aligned}$  | bod<br><b>celkem 3</b>                                  | 6 | $\begin{aligned} &\text{a) } 2a^4b^2c^3 : 4a^2b^2c \quad \text{b) } -21n^2 : 3n^3 \\ &\text{c) } (-6x^2) \cdot (-2x^4) \end{aligned}$   | $\begin{aligned} &0,5a^2c^2 \quad -7n^{-1} \quad 3x^{-2} \end{aligned}$  |
| 7 | $\begin{aligned} &\text{Vypořtej a) } (-5^2 - 5)^2 : (-5) \\ &\text{b) } 3,1 \cdot (2,7 - 1,5) + 4,7 \\ &\text{c) } 2,7 + (3 - 4)^2 - 3,5^2 \end{aligned}$   | $\begin{aligned} &(-25 - 5)^2 : (-5) = (-30)^2 : (-5) = \\ &= 900 : (-5) = -180 \\ &3,1 \cdot (2,7 - 1,5) + 4,7 = 3,1 \cdot 1,2 + 4,7 = \\ &= 3,72 + 4,7 = 8,42 \\ &2,7 + (-1)^2 - 3,25 = 2,7 + 1 - 3,25 = 0,45 \end{aligned}$  | Každě 2b<br><b>Celkem 6</b>                             | 7 | $\begin{aligned} &\text{Vypořtej a) } \sqrt{3,75 - 2,94} - 5,2 \\ &\text{b) } 6,2^2 - 5,7 + (2 - 3)^2 \\ &\text{c) } (-5)^2 - (5^2 : (-5)) \end{aligned}$   | $\begin{aligned} &\text{a) } \sqrt{0,81} - 5,2 = 0,9 - 5,2 = -4,3 \\ &\text{b) } 6,4 - 35 + (-1)^2 = 24 - 35 + 1 = 25 - 35 = -10 \\ &\text{c) } 25 - (25 : (-5)) = 25 - (-5) = 30 \end{aligned}$   |
| 8 | $\begin{aligned} &\text{a) } 2301 \\ &\text{b) } 2 \cdot 10^5 + 1 \cdot 10^4 + 0 \cdot 10^3 + 6 \cdot 10^2 + 2 \cdot 10 + 1 \end{aligned}$   |   | Každě bod<br><b>Celkem 2</b>                            |   | $\begin{aligned} &\text{a) } 10 \quad 321 \\ &\text{b) } 3 \cdot 10^3 + 2 \cdot 10^2 + 1 \cdot 10 + 1 \end{aligned}$  |  |