

## 20. 1. 2021 Matematika

### 1) Práce z pondělní hodiny ke kontrole: PS str. 70/cv. A3

$$\begin{aligned} \text{a) } x^2 - 16 &\neq 0 \\ (x-4) \cdot (x+4) &\neq 0 \\ \downarrow \quad \quad \quad \searrow \\ x-4 &\neq 0 & x+4 &\neq 0 \\ x &\neq 4 & x &\neq -4 \end{aligned}$$

$$\begin{aligned} \text{b) } 4a^2 - 36 &\neq 0 \\ (2a-6) \cdot (2a+6) &\neq 0 \\ \downarrow \quad \quad \quad \searrow \\ 2a-6 &\neq 0 \quad /:2 & 2a+6 &\neq 0 \quad /:2 \\ a-3 &\neq 0 & a+3 &\neq 0 \\ a &\neq 3 & a &\neq -3 \end{aligned}$$

$$\begin{aligned} \text{c) } 4p^2q^2 - 8pq &\neq 0 \\ 4pq \cdot (pq-2) &\neq 0 \\ \downarrow \quad \quad \quad \searrow \\ p &\neq 0 & pq-2 &\neq 0 \\ q &\neq 0 & pq &\neq 2 \\ & & p &\neq \frac{2}{q} \end{aligned}$$

$$\begin{aligned} \text{d) } a^2 - 2a + 1 &\neq 0 \\ (a-1)^2 &\neq 0 \\ a-1 &\neq 0 \\ a &\neq 1 \end{aligned}$$

$$\begin{aligned} \text{e) } 4x^2 - 16 &\neq 0 \\ (2x-4) \cdot (2x+4) &\neq 0 \\ \downarrow \quad \quad \quad \searrow \\ 2x-4 &\neq 0 \quad /:2 & 2x+4 &\neq 0 \quad /:2 \\ x-2 &\neq 0 & x+2 &\neq 0 \\ x &\neq 2 & x &\neq -2 \end{aligned}$$

$$\begin{aligned} \text{f) } 2x^2y - xy &\neq 0 \\ xy \cdot (2x-1) &\neq 0 \\ \downarrow \quad \quad \quad \searrow \\ x &\neq 0 & 2x-1 &\neq 0 \\ y &\neq 0 & 2x &\neq 1 \\ & & x &\neq \frac{1}{2} \end{aligned}$$

$$\begin{aligned} \text{g) } x^2 + 2xy + y^2 &\neq 0 \\ (x+y)^2 &\neq 0 \\ x+y &\neq 0 \\ x &\neq -y \end{aligned}$$

$$\begin{aligned} \text{h) } 9a^2 - 1 &\neq 0 \\ (3a-1) \cdot (3a+1) &\neq 0 \\ \downarrow \quad \quad \quad \searrow \\ 3a-1 &\neq 0 & 3a+1 &\neq 0 \\ 3a &\neq 1 & 3a &\neq -1 \end{aligned}$$

$$\begin{aligned} \text{i) } 5a + 10 &\neq 0 \\ 5a &\neq -10 \quad /:5 \\ a &\neq -2 \end{aligned}$$

### Kontrola domácí práce:

$$\text{e) } \frac{x}{a^3 - 4ab^2} =$$

$$\text{f) } \frac{5}{a^2 - 9b^2} =$$

$$\text{g) } \frac{a-b}{x^3 + 10x^2y + 25xy^2} =$$

$$\text{h) } \frac{a}{x^2 + 5}$$

*ma' smysl  
vždy*

$$\begin{aligned} \text{e) } a(a^2 - 4b^2) &\neq 0 \\ a &\neq 0 & (a-2b)(a+2b) &\neq 0 \\ a &\neq \pm 2b \end{aligned}$$

$$\begin{aligned} \text{f) } (a-3b)(a+3b) &\neq 0 \\ a &\neq \pm 3b \end{aligned}$$

$$\begin{aligned} \text{g) } x(x^2 + 10xy + 25y^2) & \\ x &\neq 0 & (x+5y)^2 &= 0 \\ x &\neq -5y \end{aligned}$$

$$\text{i) } \frac{a+2}{a^2+b^2} \quad \left. \begin{array}{l} a+2 \\ b+0 \end{array} \right\} \text{ souč.}$$

$$\text{j) } \frac{a-b}{x^2 - 4xy + 4y^2} = (x-2y)^2 = 0$$

$$\text{k) } \frac{x}{b^2+3} \quad \checkmark \quad \left. \begin{array}{l} x \neq 2y \\ \text{vždy smysl} \end{array} \right\}$$

$$\begin{aligned} \text{l) } \frac{1}{9a^2 + 6a + 1} &= \\ (3a+1)^2 &\neq 0 \\ 3a &\neq -1 \\ a &\neq -\frac{1}{3} \end{aligned}$$

### 1) Práce v hodině: PS str. 71/cv. A4 str. 72/ cv. A6