

SKRIPTA – DEFINIČNÍ OBORY JEDNÉ PROMĚNNÉ

Příklady ze skript **Matematika I**, Slavík, V., Wolhmutová, M., 2004

Zadání

$$1) f(x) = \sqrt{\frac{1-x}{1+x}}$$

$$2) f(x) = \sqrt{2+x-x^2} + \sqrt[4]{6x-8-x^2}$$

$$3) f(x) = \log(x^3 - 5x^2 + 6x)$$

$$4) f(x) = \sqrt{x^2 - 4} + 3\sqrt{2-x} + \sqrt{3x^2 + 4}$$

$$5) f(x) = \sqrt{3^x - 9}$$

$$6) f(x) = e^{\sqrt{1-\log(x+3)}}$$

$$7) f(x) = \frac{2^x + 1}{2^x - 1} + \frac{5}{\sqrt{8-2^x}}$$

$$8) f(x) = \sqrt{4^x - 3 \cdot 2^x - 4}$$

$$9) f(x) = \arccos\left(\frac{1-2x}{3}\right)$$

$$10) f(x) = \frac{5 \operatorname{arctg} x}{4-x^2} + \arcsin(x-2)$$

$$11) f(x) = \arccos \sqrt{\frac{2x+1}{2}}$$

$$12) f(x) = \sin(\arcsin x)$$

$$13) f(x) = \arcsin(\sin x)$$

$$14) f(x) = \log(4x^2 - 1)$$

$$15) f(x) = \frac{\ln(x-1)}{x^2 - x - 2}$$

$$16) f(x) = \sqrt{16-x^2} + \log(6x+x^2)$$

$$17) f(x) = \log(x^3+x) + \sqrt[4]{\frac{2-x}{2+x}}$$

$$18) f(x) = \frac{\log(12+4x-x^2)}{\sqrt{x^2-x-2}}$$

$$19) f(x) = \sqrt{\log(\log x + 8)}$$

$$20) f(x) = \log(1 - \log(x^2 - 5x + 16))$$

Výsledky

$$1 \checkmark \quad D(f) = (-1; 1)$$

$$2 \checkmark \quad D(f) = \{2\}$$

$$3 \checkmark \quad D(f) = (0; 2) \cup (3; \infty)$$

$$4 \checkmark \quad D(f) = (-\infty; -2) \cup \{2\}$$

$$5 \checkmark \quad D(f) = \langle 2; \infty \rangle$$

$$6 \checkmark \quad D(f) = (-3; 7)$$

$$7 \checkmark \quad D(f) = (-\infty; 0) \cup (0; 3)$$

$$8 \checkmark \quad D(f) = \langle 2; \infty \rangle$$

$$9 \checkmark \quad D(f) = \langle -1; 2 \rangle$$

$$10 \checkmark \quad D(f) = \langle 1; 2 \rangle \cup (2; 3)$$

$$11 \checkmark \quad D(f) = \left\langle -\frac{1}{2}; \frac{1}{2} \right\rangle$$

$$12 \checkmark \quad D(f) = \langle -1; 1 \rangle$$

$$13 \checkmark \quad D(f) = (-\infty; \infty)$$

$$14 \checkmark \quad D(f) = \left(-\infty; -\frac{1}{2}\right) \cup \left(\frac{1}{2}; \infty\right)$$

$$15 \checkmark \quad D(f) = (1; 2) \cup (2; \infty)$$

$$16 \checkmark \quad D(f) = (0; 4)$$

$$17 \checkmark \quad D(f) = (0; 2)$$

$$18 \checkmark \quad D(f) = (-2; -1) \cup (2; 6)$$

$$19 \checkmark \quad D(f) = \langle 2; \infty \rangle$$

$$20 \checkmark \quad D(f) = (2; 3)$$