

1) Výčtem prvků zapište množinu:

a) $A = \{ x \in \mathbb{N}; x < 5 \}$

b) $B = \{ x \in \mathbb{N}; 4 \leq x < 10 \}$

c) $C = \{ x \in \mathbb{R}; x^2 = 25 \}$

d) $D = \{ x \in \mathbb{Z}; -3 < x \leq 5 \}$

e) $E = \{ x \in \mathbb{N}; -4 \leq x < 2 \}$

f) $F = \{ x \in \mathbb{R}; x^2 = -4 \}$

2) Charakteristickou vlastností určete množiny:

a) $A = \{ 1; 2; 3; 4; 5; 6 \}$

b) $B = \{ 0; 1; 2; 3; 4; 5; 6 \}$

c) $C = \{ 7 \}$

d) $D = \{ -3; -2; -1; 0; 1; 2; 3; 4; 5 \}$

3) Vyhledejte stejné množiny:

$A = \{ x \in \mathbb{Z}; 4 \leq x < 10 \}$

$K = \{ 4; 5; 6; 7; 8; 9; 10 \}$

$C = \{ x \in \mathbb{N}; 4 \leq x \leq 9 \}$

$L = \{ 4; 5; 6; 7; 8; 9 \}$

$D = \{ x \in \mathbb{R}; 3x = 9 \}$

$M = \{ -3; 3 \}$

$E = \{ x \in \mathbb{R}; x^2 = 9 \}$

$O = \{ 3 \}$

$F = \{ x \in \mathbb{Z}; x^2 = 9 \}$

$P = \{ -4; -3; -2; -1; 0; 1; 2 \}$

$G = \{ x \in \mathbb{N}; x^2 = 9 \}$

$S = \{ 0; 1; 2 \}$

$H = \{ x \in \mathbb{N}; -4 \leq x \leq 2 \}$

$T = \{ 1; 2 \}$

$I = \{ x \in \mathbb{Z}; -4 \leq x \leq 2 \}$

4) Zapište množiny intervalem a zakreslete na číselné ose:

$$A = \{ x \in \mathbb{R}; -3 \leq x \leq 5 \}$$

$$B = \{ x \in \mathbb{R}; -3 \leq x < 5 \}$$

$$C = \{ x \in \mathbb{R}; -3 < x \leq 5 \}$$

$$D = \{ x \in \mathbb{R}; -3 < x < 5 \}$$

$$E = \{ x \in \mathbb{R}; x \leq -3 \}$$

$$F = \{ x \in \mathbb{R}; x \geq 5 \}$$

$$G = \{ x \in \mathbb{R}; x \geq -3 \}$$

$$H = \{ x \in \mathbb{R}; x \leq 5 \}$$

5) Doplněte znak \in ; \notin

- 3	A	5	A	$\sqrt{5}$	A	$-\sqrt{10}$	A
- 3	B	5	B	$\sqrt{5}$	B	$-\sqrt{10}$	B
- 3	C	5	C	$\sqrt{5}$	C	$-\sqrt{10}$	C
- 3	D	5	D	$\sqrt{5}$	D	$-\sqrt{10}$	D
- 3	E	5	E	$\sqrt{5}$	E	$-\sqrt{10}$	E
- 3	F	5	F	$\sqrt{5}$	F	$-\sqrt{10}$	F
- 3	G	5	G	$\sqrt{5}$	G	$-\sqrt{10}$	H
- 3	H	5	H	$\sqrt{5}$	H	$-\sqrt{10}$	H

6) Zapište pomocí charakteristické vlastnosti a zakreslete na číselné ose:

a) $A = (4; +\infty)$

b) $B = \langle \sqrt{7}; 10 \rangle$

c) $C = (-\infty; -3 \rangle$

d) $D = \langle -5; 5 \rangle$

7) Dané množiny zakreslete na číselné ose a zapište pomocí intervalů:

$A = \{ x \in \mathbf{R}; |x| < 5 \}$

$B = \{ x \in \mathbf{R}; |x| \geq 5 \}$

$C = \{ x \in \mathbf{R}; |x| \leq 3 \}$

$D = \{ x \in \mathbf{R}; |x| > 3 \}$

$E = \{ x \in \mathbf{R}; |x| \leq \sqrt{7} \}$

$F = \{ x \in \mathbf{R}; |x| > \sqrt{7} \}$

$G = \{ x \in \mathbf{R}; |x| \leq -3 \}$

$H = \{ x \in \mathbf{R}; |x| > -3 \}$