Určete definiční obor funkce:

1. $f: y = \dfrac{1}{|x| - 3}$

2. $f: y = \dfrac{x - 3}{x^2 - 4}$

3. $f: y = \dfrac{x^2 - 2x}{x^2 - x - 2}$

4. $f: y = \sqrt{\dfrac{x + 4}{1 - x}}$

5. $f: y = \dfrac{\sqrt{x - 1}}{\sqrt{x + 1}}$

6. $f: y = \sqrt{x^2 - 8x + 12}$

7. $f: y = \sqrt{(x + 2)^2}$

8. $f: y = \dfrac{1}{\sqrt{x^2 - 2x + 1}}$

9. $f: y = \dfrac{1}{\sqrt{x(x - 7)}}$

10. $f: y = \dfrac{1}{\log x}$

11. $f: y = \dfrac{\log(x^2 - 36)}{\sqrt{x^2 - 10x + 21}}$

12. $f: y = \log \dfrac{4x - x^2 - 3}{16x^2 + 2}$

13. $f: y = \sqrt{x^2 - 9} + \log(7 - x)$

14. $f: y = \dfrac{1}{\sin x}$

15. $f: y = \sqrt{\operatorname{tg} x}$

Výsledky:

1. $D(f) = \mathbb{R} \setminus \{-3; 3\}$
2. $D(f) = \mathbb{R} \setminus \{-2; 2\}$
3. $D(f) = \mathbb{R} \setminus \{-1; 2\}$
4. $D(f) = \langle -4; 1)$
5. $D(f) = \langle 1; \infty)$
6. $D(f) = (-\infty; 2\rangle \cup \langle 6; \infty)$
7. $D(f) = \mathbb{R}$
8. $D(f) = \mathbb{R} \setminus \{1\}$
9. $D(f) = (-\infty; 0) \cup (7; \infty)$
10. $D(f) = (0; 1) \cup (1; \infty)$
11. $D(f) = (-\infty; -6) \cup (7; \infty)$
12. $D(f) = (1; 3)$
13. $D(f) = (-\infty; -3\rangle \cup \langle 3; 7)$
14. $D(f) = \mathbb{R} \setminus \bigcup_{k \in \mathbb{Z}} \{k\pi\}$
15. $D(f) = \bigcup_{k \in \mathbb{Z}} \langle k\pi; \frac{\pi}{2} + k\pi)$