- **Déterminer le domaine de définition des fonctions suivantes**

1. $f(x) = \dfrac{3x - 1}{x^2 + 7x - 8}$

2. $f(x) = \sqrt{1 - 3x}$

3. $f(x) = \dfrac{1}{\sqrt{4 - x^2}}$

4. $f(x) = \sqrt{\dfrac{x^2 - 5x - 6}{(x - 1)(5 - x^2)}}$

5. $f(x) = \dfrac{1}{x^2 - |x - 6|}$

6. $f(x) = \dfrac{\sqrt{x}}{2x^3 + 3x^2 - 8x + 3}$

7. $f(x) = \sqrt{5x^3 - 27x^2 + 40x - 12}$

8. $f(x) = \dfrac{\sqrt{12x^3 + 16x^2 - 25x + 7}}{x}$

9. $f(x) = \dfrac{\sqrt{-x^2 - x + 12}}{2 - |x + 1|}$

10. $f(x) = \dfrac{3x - 2}{|x^2 - 4x| - 4}$

11. $f(x) = \sqrt{5 - 3|x|}$

12. $f(x) = \sqrt{|x - 4| - 3}$

13. $f(x) = \dfrac{2}{\sqrt{|x^2 - 6x| - 9}}$

14. $f(x) = \sqrt{\dfrac{x - 1}{|x| + 1}}$

15. $f(x) = \dfrac{\sqrt{3x^3 - 5x^2 - 16x + 12}}{1 - x^2}$

- **Solutions**

1. Dom $f = \mathbb{R} \setminus \{-8,1\}$

2. Dom $f = \leftarrow, \dfrac{1}{3}]$

3. Dom $f = \,]-2\,,\,2[$

4. Dom $f = \leftarrow, -\sqrt{5}\,[\,\cup\, [-1\,,\,1[\,\cup\,]\sqrt{5}\,,\,6]$

5. Dom $f = \mathbb{R} \setminus \{-3,2\}$

6. Dom $f = [0\,,\,\dfrac{1}{2}[\,\cup\,]\dfrac{1}{2}\,,\,1[\,\cup\,]1, \longrightarrow$

7. Dom $f = [\dfrac{2}{5}\,,\,2] \,\cup\, [3, \longrightarrow$

8. Dom $f = [-\dfrac{7}{3}\,,\,0[\,\cup\,]0, \longrightarrow$

9. Dom $f = [-4\,,\,-3[\,\cup\,]-3\,,\,1[\,\cup\,]1\,,\,3]$

10. Dom $f = \leftarrow, 2-2\sqrt{2}\,[\,\cup\,]2-2\sqrt{2}\,,\,2[\,\cup\,]2\,,\,2+2\sqrt{2}\,[\,\cup\,]2+2\sqrt{2}\,, \longrightarrow$

11. Dom $f = [-\dfrac{5}{3}\,,\,\dfrac{5}{3}]$

12. Dom $f = \leftarrow, 1] \,\cup\, [7, \longrightarrow$

13. Dom $f = \leftarrow, 3-3\sqrt{2}\,[\,\cup\,]3+3\sqrt{2}\,, \longrightarrow$

14. Dom $f = [1, \longrightarrow$

15. Dom $f = [-2\,,\,-1[\,\cup\,]-1\,,\,\dfrac{2}{3}] \,\cup\, [3, \longrightarrow$