2eB - Domaines

Déterminer le domaine de définition des fonctions f suivantes définies par :

1. $f(x) = \sqrt{-2x^2+3x+2}$; $f(x) = \dfrac{1}{-2x^2+3x+2}$
2. $f(x) = \dfrac{1}{\sqrt{-2x^2+3x+2}}$; $f(x) = \dfrac{1}{\sqrt{2x^2-3x-2}}$
3. $f(x) = \sqrt{4x^2-12x+9}$; $f(x) = \sqrt{-4x^2+12x-9}$
4. $f(x) = \dfrac{x-3}{x^3-27}$; $f(x) = \sqrt{x^3+27}$; $f(x) = \dfrac{1}{\sqrt{-x^2-1}}$
5. $f(x) = \dfrac{x^2-2x-3}{x^5-5x^4+x^3+19x^2-6x-18}$; $f(x) = \dfrac{x^2-2x+1}{x^3-3x^2+3x-1}$
6. $f(x) = \dfrac{x^2+\sqrt{7}\,x}{x^5+2x^3-63x}$; $f(x) = \dfrac{1}{x^3-(2+\sqrt{3})\,x^2+(2\sqrt{3}-1)\,x+\sqrt{3}}$
7. $f(x) = \sqrt{x+1}\cdot\sqrt{x-2}$; $f(x) = \sqrt{(x+1)(x-2)}$
8. $f(x) = \sqrt{\dfrac{x+1}{x-2}}$; $f(x) = \dfrac{\sqrt{x+1}}{\sqrt{x-2}}$; $f(x) = \dfrac{\sqrt{x+1}}{x-2}$
9. $f(x) = \sqrt{5-3x}\cdot\sqrt{2x^2-7x+5}$; $f(x) = \sqrt{(5-3x)(2x^2-7x+5)}$
10. $f(x) = \sqrt{(x-1)(3-5x)(x^2-1)(x^2+x+7)}$
11. $f(x) = 3\sqrt{2x^2+5x-12} - 2\sqrt{x^2-5x+4} - \sqrt{25-x^2}$
12. $f(x) = \sqrt{2x^2-5x-3} + \dfrac{1}{\sqrt{-x^2+3x+4}} + \dfrac{x}{\sqrt{x^2-1}}$
13. $f(x) = \sqrt{\dfrac{x^2-3x+2}{2x-3} - \dfrac{2}{3}}$; $f(x) = \dfrac{x^3}{\sqrt{\dfrac{2}{x} - \dfrac{1}{x-1} - 1}}$
14. $f(x) = \sqrt{\dfrac{x}{x+1} - \dfrac{4}{x^2-2x-3} - \dfrac{x+3}{x^2-9}}$; $f(x) = \dfrac{x+2}{\sqrt[3]{x+2}}$
15. $f(x) = \sqrt{\dfrac{x+5}{x-3} - \dfrac{x+2}{x-4}} + \sqrt{(2x+3)\,(x^2-3x+2)\,(x^2-7x+6)}$
16. $f(x) = \sqrt{\dfrac{48}{x^2+5x+6} - \dfrac{7}{x+3} - \dfrac{4}{x+2}} - \sqrt{2 - \dfrac{3x+2}{x+1} + \dfrac{x+1}{x-3}}$
17. $f(x) = \dfrac{5}{|x|-3}$; $f(x) = \dfrac{5}{|x-2|}$; $f(x) = \dfrac{5}{|x|+1}$
18. $f(x) = \sqrt{|2x-1|-|2x+1|}$; $\dfrac{1}{\sqrt{1-|x-1|}} + \sqrt{|x-\sqrt{2}|-1}$
19. $f(x) = \sqrt{1-\sqrt{x}}$; $f(x) = \sqrt{x-\sqrt{x^2-x}}$; $f(x) = \sqrt{\sqrt{x^2+2x}-3x}$
20. $f_m(x) = \dfrac{1}{6x^2-17mx+12m^2}$ (m paramètre réel)
21. $f_m(x) = \dfrac{mx}{(m-2)\,x^2-2mx+(m-1)}$ ($m \in \mathbb{R}$)