Calcul de dérivées

Déterminer dom f, dom f' et f'(x) pour les fonctions f suivantes:

1. $f(x) = 5(x^2 - x + 2)^2$
2. $f(x) = (3x^2 - x + 3)^2$
3. $f(x) = x^2 + \dfrac{1}{x}$
4. $f(x) = \dfrac{3}{(2x-1)^2}$
5. $f(x) = 2x - 4 + \dfrac{3}{x-5}$
6. $f(x) = 2x + \sqrt{x}$
7. $f(x) = \dfrac{x^2 - x + 3}{x^2 - 2x - 1}$
8. $f(x) = x^2 - \sqrt{x} + \sqrt{3x-4}$
9. $f(x) = \dfrac{\sqrt{-x+2}}{x+3}$
10. $f(x) = \dfrac{x^2+1}{\sqrt{2x+1}}$
11. $f(x) = (x+3)\sqrt{x-1}$
12. $f(x) = \dfrac{1}{\sqrt{x}}$
13. $f(x) = (x^3 + 2x - 1)^3(2x+1)^4$
14. $f(x) = \dfrac{2x^2 + x - 3}{4x+1}$
15. $f(x) = \dfrac{3x^2 - 4x + 1}{-x^2 + 2x + 5}$
16. $f(x) = 3x + 5 - \dfrac{2}{(2x+1)^2}$
17. $f(x) = \left(\dfrac{x-1}{x+1}\right)^2$

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

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

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

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

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

23. $f(x) = \left(\sqrt{x} + \dfrac{1}{x}\right)^3$

24. $f(x) = \sqrt{2x^2-5x+3}$

25. $f(x) = -1 + \sqrt{1+x^2}$

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