Calcula el domini de les funcions següents:

1. $f(x) = \frac{3x+1}{2x-4}$ Sol: $D = \mathbb{R} - \{2\}$
2. $f(x) = \frac{2x+1}{x^2-5x+6}$ Sol: $D = \mathbb{R} - \{2, 3\}$
3. $f(x) = \sqrt{-x^2+64}$ Sol: $D = [-8, 8]$
4. $f(x) = \sqrt{x^2+4x+3}$ Sol: $D = (-\infty, -3] \cup [-1, +\infty)$
5. $f(x) = \sqrt[3]{\frac{3x+4}{1-x}}$ Sol: $D = \mathbb{R} - \{1\}$
6. $f(x) = \frac{1}{2x^2+x+3}$ Sol: $D = \mathbb{R}$
7. $f(x) = \frac{3x}{x^4-5x^2+4}$ Sol: $D = \mathbb{R} - \{-2, -1, 1, 2\}$
8. $f(x) = \frac{3}{\sqrt{x}} + 4x^2$ Sol: $D = \mathbb{R}^+$
9. $f(x) = \frac{2x^2+1}{\sqrt{(x-1)(x-2)}} + 4x^2$ Sol: $D = (-\infty, 1) \cup (2, +\infty)$
10. $f(x) = \sqrt{x^2+1} + \sqrt[6]{2-x}$ Sol: $D = (-\infty, 2]$
11. $f(x) = \sqrt{-x^2-4}$ Sol: $D = \nexists$
12. $f(x) = \sqrt{x^2+x+2}$ Sol: $D = \mathbb{R}$