4. FUNCIONS

1r Batx CCSS

Calcula el domini d'aquestes funcions:

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

2. - $f(t) = \sqrt{3t+9}$

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

4. - $g(x) = 4x^3 - 5x^2 + 2$

5. - $g(x) = 3\cos x$

6. - $f(x) = \dfrac{4x}{x-6}$

7. - $f(x) = \ln(x-9)$

8. - $f(m) = e^{m+5}$

9. - $f(x) = \dfrac{x-7}{x^2 - 6x + 9}$

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

11. - $f(x) = e^{x-7} + \pi$

12. - $f(x) = 7^{\frac{3-x}{3x-2}}$

13. - $f(x) = \ln\left(\frac{5}{x+1}\right)$

14. - $f(t) = \dfrac{t}{e^t}$

15. - $g(x) = x^3 + \sin x$

16. - $f(x) = \sqrt[3]{x-1}$

17. - $f(x) = \log(x^2 + 4)$

18. - $f(x) = \dfrac{\sin x}{8-x}$

19. - $f(x) = \dfrac{5x+3}{x(x-6)(x+1)}$

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

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Solucions:

1. - $\text{Dom } f = \mathbb{R} - \{0, 3\}$
2. - $\text{Dom } f = \mathbb{R} - (-\infty, -3) = [-3, +\infty)$
3. - $\text{Dom } f = \mathbb{R}$
4. - $\text{Dom } g = \mathbb{R}$
5. - $\text{Dom } g = \mathbb{R}$
6. - $\text{Dom } f = \mathbb{R} - \{6\}$
7. - $\text{Dom } f = \mathbb{R} - (-\infty, 9] = (9, +\infty)$
8. - $\text{Dom } f = \mathbb{R}$
9. - $\text{Dom } f = \mathbb{R} - \{3\}$
10. - $\text{Dom } f = \mathbb{R}$
11. - $\text{Dom } f = \mathbb{R}$
12. - $\text{Dom } f = \mathbb{R} - \left\{\frac{2}{3}\right\}$
13. - $\text{Dom } f = (-1, +\infty)$
14. - $\text{Dom } f = \mathbb{R}$
15. - $\text{Dom } g = \mathbb{R}$
16. - $\text{Dom } f = \mathbb{R}$
17. - $\text{Dom } f = \mathbb{R}$
18. - $\text{Dom } f = \mathbb{R} - \{8\}$
19. - $\text{Dom } f = \mathbb{R} - \{-1, 0, 6\}$
20. - $\text{Dom } f = (-\infty, \frac{1}{2}] \cup [0, +\infty)$