2016/2017

Nalezněte extrémy funkce $f(x)$

1. $f(x) = \sqrt{x^2 - x + 1}$,
2. $f(x) = \operatorname{arctg}\left(1 - x^2\right)$,
3. $f(x) = \operatorname{arctg}\left(x + \frac{1}{x}\right)$,
4. $f(x) = (x+3)\sqrt{x^2+1}$,
5. $f(x) = \sqrt{x^3 - x^2 + x - 1}$,
6. $f(x) = \frac{\sqrt{x}}{\mathrm{e}^{\frac{x}{2}}}$,
7. $f(x) = \frac{x^3}{x^2 + x + 1}$,
8. $f(x) = \mathrm{e}^{x^3 - 3x + 2}$,
9. $f(x) = x^2 + \ln(3 - 2x)$,
10. $f(x) = \frac{x}{1 - \ln x}$,
11. $f(x) = \left(\frac{x+2}{2-x}\right)^2$,
12. $f(x) = \frac{x^2}{\frac{1}{2} + \ln x}$,
13. $f(x) = x^2\sqrt{x+5}$,
14. $f(x) = \operatorname{arctg}\left(x^2 + 1\right)$,
15. $f(x) = \frac{x}{\sqrt{x+1}}$,
16. $f(x) = \sqrt{x^2 - x + 1}$,
17. $f(x) = \frac{x}{x^2+1}$,
18. $f(x) = \frac{x^2}{x+1}$,
19. $f(x) = x + \ln(5 - x)$,
20. $f(x) = x\,\mathrm{e}^{\sqrt{3-2x}}$,
21. $f(x) = (1 + 2\sin x)^3$,
22. $f(x) = x\,\mathrm{e}^{1-x}$,
23. $f(x) = x^3\,\ln x$,
24. $f(x) = x + \sqrt{5 - 2x}$,
25. $f(x) = 1 + 2\sin^3 x$,
26. $f(x) = x\,\mathrm{e}^{x^{-2}}$,
27. $f(x) = \ln\left(x^2 + 2x + 2\right)$,
28. $f(x) = \mathrm{e}^{\cos(2x)}$,
29. $f(x) = \frac{x+2}{(2-x)^2}$,
30. $f(x) = \frac{x}{\mathrm{e}^{\sqrt{x}}}$,

2016/2017

Nalezněte extrémy funkce $f(x)$

1. $\min\left[\frac{1}{2}, \frac{\sqrt{3}}{2}\right]$
2. $\mathrm{MAX}\left[0, \frac{\pi}{4}\right]$
3. $\mathrm{MAX}\left[-1, -\operatorname{arctg}(2)\right], \quad \min\left[1, \operatorname{arctg}(2)\right],$
4. $\mathrm{MAX}\left[-1, 2\sqrt{2}\right], \ \min\left[-\frac{1}{2}, \frac{5\sqrt{5}}{4}\right]$
5. nemá extrémy,
6. $\mathrm{MAX}\left[1, \frac{1}{\sqrt{\mathrm{e}}}\right],$
7. nemá extrémy,
8. $\mathrm{MAX}\left[-1, \mathrm{e}^4\right], \ \min[1, 1],$
9. $\min\left[\frac{1}{2}, \frac{1}{4} + \ln(2)\right], \ \mathrm{MAX}[1, 1],$
10. $\mathrm{MAX}\left[\mathrm{e}^2, -\mathrm{e}^2\right],$
11. $\min[-2, 0],$
12. $\min[1, 2],$
13. $\mathrm{MAX}[-4, 16], \ \min[0, 0],$
14. $\min\left[0, \frac{\pi}{4}\right],$
15. nemá extrémy
16. $\min\left[\frac{1}{2}, \frac{\sqrt{3}}{2}\right],$
17. $\min\left[-1, -\frac{1}{2}\right], \qquad \mathrm{MAX}\left[1, \frac{1}{2}\right],$
18. $\mathrm{MAX}[-2, -4], \qquad \min[0, 0],$
19. $\mathrm{MAX}[4, 4],$
20. $\mathrm{MAX}[1, \mathrm{e}]$
21. $\min\left[-\frac{\pi}{2}, -1\right], \qquad \mathrm{MAX}\left[\frac{\pi}{2}, 27\right],$
22. $\mathrm{MAX}[1, 1]$
23. $\min\left[\mathrm{e}^{-\frac{1}{3}}, -\frac{1}{3}\mathrm{e}^{-1}\right]$
24. $\mathrm{MAX}[2, 3],$
25. $\min\left[-\frac{\pi}{2}, -1\right], \qquad \mathrm{MAX}\left[\frac{\pi}{2}, 1\right],$
26. $\mathrm{MAX}\left[-\sqrt{2}, -\sqrt{2\mathrm{e}}\right], \qquad \min\left[\sqrt{2}, \sqrt{2\mathrm{e}}\right],$
27. $\min[-1, 0],$
28. $\mathrm{MAX}[0, \mathrm{e}], \qquad \min\left[\frac{\pi}{2}, \frac{1}{\mathrm{e}}\right],$
29. $\min\left[-6, -\frac{1}{16}\right]$
30. $\mathrm{MAX}\left[4, 4\mathrm{e}^{-2}\right]$