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

2. $f(x) = \begin{cases} \dfrac{2x^6+6}{x-1} & x < 0 \\ \dfrac{x^2-1}{x^2+1} & x \geq 0 \end{cases}$ — CONT AS EXTR

3. $f(x) = \begin{cases} a + \ln(1-x) & x < 0 \\ x^2 e^{-x} & x \geq 0 \end{cases}$ — ASH CONT DER

4. $f(x) = \dfrac{1}{x+1} + \dfrac{x}{x+4}$ — AS EXTR

5. $f(x) = \begin{cases} \dfrac{5senx}{2x} + \dfrac{1}{2} & x < 0 \\ a & x = 0 \\ xe^x + 3 & x > 0 \end{cases}$ — CONT DER

6. $f(x) = \dfrac{x^2 - 4x + 3}{x^2 - 1}$ — CREC

7. $f(x) = \dfrac{x}{x^2-4} + \dfrac{\ln(x+1)}{x+1}$ — AS TANG

8. $f(x) = \begin{cases} \dfrac{senx}{x} & x < 0 \\ xe^x + 1 & x \geq 0 \end{cases}$ — CONT DER

9. $f(x) = \begin{cases} a + xlnx & x > 0 \\ x^2 e^x & x \leq 0 \end{cases}$ — CONT DER

10. $f(x) = 1 + 2x + 3x^2 + 4x^3$ — CREC ECU

11. $f(x) = 2x^2 - \dfrac{x^3}{3}$ — CREC EXTR

12. $f(x) = \begin{cases} |x| & x < 1 \\ xe^{1-x} & x \geq 1 \end{cases}$ — CONT DER

13. $$f(x)=\begin{cases}\dfrac{\ln(1-x)}{1-x} & x<0\\ xe^{-x} & x\geq 0\end{cases}$$ CONT AS TANG

14. $$f(x)=\begin{cases}\dfrac{9}{2x-4}+2x-1 & x\neq 2\\ 0 & x=2\end{cases}$$ AS EXTR IN

15. $f(x)=ln(x^2+4x-5)$ ASV CREC

16. $f(x)=e^x+ae^{-x}$ EXTR ASH

17. $f(x)=x^3-x$ TANG

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

19. $$f(x)=\begin{cases}\dfrac{\sqrt{x}\ln x}{2^x} & x\\ x+k & x\end{cases}$$ CONT TANG

20. $f(x)=\dfrac{3x^2+5x-20}{x+5}$ AS COVX

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

22. $f(x)=\sqrt{12-3x^2}$ EXTR-ABS

23. $f(x)=\dfrac{ax^4+1}{x^3}$ EXTR AS

24. $f(x)=\sqrt{x^2+9x+14}$ DER

25. $$f(x)=\begin{cases}e^{1/x} & x<0\\ k & x=0\\ \dfrac{cosx-1}{senx} & x>0\end{cases}$$ CONT

26. $$f(x)=\begin{cases}\dfrac{e^{\lambda x^2}-1}{3x^2} & x>0\\[2ex] \dfrac{sen2x}{x} & x\le 0\end{cases}$$ CONT

27. $$f(x)=cos^2x$$ EXTR IN

28. $$f(x)=\begin{cases}3x+A & x\le 3\\ -4+10x-x^2 & x>3\end{cases}$$ CONT EXTR-ABS

29. $$f(x)=x^2senx$$ ECU TANG

30. $$f(x)=\begin{cases}e^{-1/x} & x>0\\ a & x=0\\ \dfrac{2x^2+3x}{x-1} & x<0\end{cases}$$ CONT AS

31. $$f(x)=2cos^2x$$ EXTR-ABS DER