Beräkna derivator

$y'(x)$

667. $y=(1+\sqrt[3]{x})^3$.

668. $y=a\operatorname{tg}\left(\frac{x}{k}+b\right)$.

669. $y=\sqrt{1+\sqrt{2px}}$.

670. $y=\operatorname{arctg}(x^2-3x+2)$.

671. $y=\lg(x-\cos x)$.

672. $y=3\cos^2 x-\cos^3 x$.

673. $y=5\operatorname{tg}\frac{x}{5}+\operatorname{tg}\frac{\pi}{8}$.

674. $y=\frac{1}{\sqrt[3]{x+\sqrt{x}}}$.

675. $y=\sin\frac{x}{2}\sin 2x$.

676. $y=\sin x\cdot e^{\cos x}$.

677. $y=y^5\sqrt[3]{x^6-8}$.

678. $y=e^{-x^2}\ln x$.

679. $y=\left(\sqrt{x}+\frac{1}{\sqrt{x}}\right)^{10}$.

680. $y=\operatorname{arctg}\frac{x+1}{x-1}$.

681. $y=e^{2x+3}\left(x^2-x+\frac{1}{2}\right)$.

682. $y=\frac{2\sin^2 x}{\cos 2x}$.

683. $y=\frac{1}{\sqrt{3}}\operatorname{arctg}\frac{x\sqrt{3}}{1-x^2}$.

684. $y=\frac{\operatorname{tg}\frac{x}{2}+\operatorname{ctg}\frac{x}{2}}{x}$.

685. $y=\sin^2\frac{x}{3}\operatorname{ctg}\frac{x}{2}$.

686. $y=\frac{\sqrt[9]{4x^5+2}}{3x^4}$.

687. $y=\ln(x+\sqrt{a^2+x^2})$.

688. $y=x\operatorname{arctg}\sqrt{x}$.

689. $y=\sqrt{1+\operatorname{tg}^2 x+\operatorname{tg}^4 x}$.

690. $y=\cos 2x\ln x$.

691. $y=\frac{2}{3}\operatorname{arctg}x+\frac{1}{3}\operatorname{arctg}\frac{x}{1-x^2}$.

692. $y=\arcsin(n\sin x)$.

693. $y=\arcsin\sqrt{\sin x}$.

694. $y=\frac{1}{18}\sin^6 3x-\frac{1}{24}\sin^8 3x$.

695. $y=x-\sqrt{1-x^2}\arcsin x$

696. $y=\cos\frac{\arcsin x}{2}$.

697. $y=\sqrt{x+\sqrt{x+\sqrt{x}}}$.

698. $y=\arccos\sqrt{1-3x}$.

699. $y=\sin^2\left(\frac{1-\ln x}{x}\right)$.

700. $y=\log_3(x^2-\sin x)$.

701. $y=\operatorname{arctg}\sqrt{\frac{1-x}{1+x}}$.

702. $y=\ln\frac{x+\sqrt{1-x^2}}{x}$.

703. $y=x\arcsin(\ln x)$.

704. $y=\operatorname{tg}\frac{1-e^x}{1+e^x}$.

705. $y=\cos x\sqrt{1+\sin^2 x}$.

706. $y=0{,}4\left(\cos\frac{2x+1}{2}-\sin 0{,}8x\right)^2$.

707. $y=x\cdot 10^{\sqrt{x}}$.

708. $y=\frac{1}{\operatorname{tg}^2 2x}$.

709. $y=\ln\operatorname{arctg}\frac{1}{1+x}$.

710. $y=\ln\frac{1}{x+\sqrt{x^2-1}}$.

711. $y=\sqrt[3]{1+x\sqrt{x+3}}$.

712. $y=x^2\sqrt{1+\sqrt{x}}$.

713. $y=\frac{1}{\sqrt{1+\sin^2 x}}$.

714. $y=x^3\operatorname{arctg}x^3$.

715. $y=\frac{\ln\sin x}{\ln\cos x}$.

716. $y=\arcsin x+\sqrt{1-x^2}$.

717. $y=\frac{\arcsin 4x}{1-4x}$.

718. $y=e^{\frac{1}{\ln x}}$.

719. $y=\ln\frac{1-e^x}{e^x}$.

720. $y=10^{x\operatorname{tg}x}$.

721. $y=\sin^2 x\cdot\sin x^2$.

722. $y=\frac{2\cos x}{\sqrt{\cos 2x}}$.

723. $y=x\sqrt{\frac{1-x}{1+x^2}}$.

724. $y=\frac{1}{4}\ln\frac{1+x}{1-x}-\frac{1}{2}\operatorname{arctg}x$.

725. $y=2^{\frac{x}{\ln x}}$.

726. $y=\sqrt{(a-x)(x-b)}-(a-b)\operatorname{arctg}\sqrt{\frac{a-x}{x-b}}$.

727. $y=\frac{\sin 3x}{2\sin^2 x\cos x}$.

728. $y=e^{\sqrt{\frac{1-x}{1+x}}}$.

729. $y=\sqrt{a^2-x^2}-a\arccos\frac{x}{a}$.

730. $y=\sqrt{x^2+1}-\ln\left(\frac{1}{x}+\sqrt{1+\frac{1}{x^2}}\right)$.

731. $y=\frac{\sin^2 x}{1+\operatorname{ctg}x}+\frac{\cos^2 x}{1+\operatorname{tg}x}$.

732. $y=\ln\left(x+\sqrt{x^2-1}\right)-\frac{x}{\sqrt{x^2-1}}$.

733. $y=e^{ax}(a\sin x-\cos x)$.

734. $y=xe^{1-\cos x}$.

735. $y=\frac{1}{\operatorname{arctg}e^{-2x}}$.

736. $y=e^x(\sin 3x-3\cos 3x)$.

737. $y=3x^3\arcsin x+(x^2+2)\sqrt{1-x^2}$.

Facit

667. $\dfrac{(1+\sqrt[3]{x})^2}{\sqrt[3]{x^2}}$.

668. $\dfrac{a}{k\cos^2\left(\dfrac{x}{k}+b\right)}$. 669. $\dfrac{p}{2\sqrt{1+\sqrt{2px}}\sqrt{2px}}$.

670. $\dfrac{2x-3}{1+(x^2-3x+2)^2}$. 671. $\dfrac{1+\sin x}{(x-\cos x)\ln 10}$. 672. $\dfrac{3}{2}\sin 2x\,(\cos x-2)$.

673. $\sec^2\dfrac{x}{5}$. 674. $-\dfrac{1+2\sqrt{x}}{6\sqrt{x}\sqrt[3]{(x+\sqrt{x})^4}}$.

675. $2\sin\dfrac{x}{2}\cos 2x+\dfrac{1}{2}\cos\dfrac{x}{2}\sin 2x$. 676. $e^{\cos x}(\cos x-\sin^2 x)$.

677. $\dfrac{x^4(7x^6-40)}{\sqrt[3]{(x^6-8)^2}}$. 678. $e^{-x^2}\left(\dfrac{1}{x}-2x\ln x\right)$.

679. $\dfrac{5(x-1)}{x\sqrt{x}}\left(\sqrt{x}+\dfrac{1}{\sqrt{x}}\right)^9$. 680. $-\dfrac{1}{1+x^2}$. 681. $2x^2e^{2x+3}$.

682. $\dfrac{2\sin 2x}{\cos^2 2x}$. 683. $\dfrac{1+x^2}{1+x^2+x^4}$. 684. $-\dfrac{2(x\cos x+\sin x)}{x^2\sin^2 x}$.

685. $\dfrac{1}{3}\operatorname{ctg}\dfrac{x}{2}\sin\dfrac{2x}{3}-\dfrac{1}{2}\sin^2\dfrac{x}{3}\operatorname{cosec}^2\dfrac{x}{2}$. 686. $-\dfrac{4(31x^5+18)}{27x^5\sqrt[9]{(4x^5+2)^8}}$.

687. $\dfrac{1}{\sqrt{x^2+a^2}}$. 688. $\operatorname{arctg}\sqrt{x}+\dfrac{\sqrt{x}}{2(1+x)}$.

689. $\dfrac{\operatorname{tg}x\,(1+2\operatorname{tg}^2 x)}{\cos^2 x\sqrt{1+\operatorname{tg}^2 x+\operatorname{tg}^4 x}}$. 690. $\dfrac{\cos 2x}{x}-2\sin 2x\ln x$.

691. $\dfrac{1+x^4}{1+x^6}$. 692. $\dfrac{n\cos x}{\sqrt{1-n^2\sin^2 x}}$. 693. $\dfrac{\cos x}{2\sqrt{\sin x-\sin^2 x}}$.

694. $\sin^5 3x \cos^3 3x$. 695. $\frac{x \arcsin x}{\sqrt{1-x^2}}$. 696. $-\frac{1}{2} \sin \frac{\arcsin x}{2} \frac{1}{\sqrt{1-x^2}}$.

697. $\frac{1+2\sqrt{x}+4\sqrt{x}\sqrt{x+\sqrt{x}}}{8\sqrt{x}\sqrt{x+\sqrt{x}}\sqrt{x+\sqrt{x+\sqrt{x}}}}$. 698. $\frac{3}{2\sqrt{3x-9x^2}}$.

699. $\frac{\ln x - 2}{x^2} \sin\left[2\left(\frac{1-\ln x}{x}\right)\right]$. 700. $\frac{2x-\cos x}{(x^2-\sin x)\ln 3}$.

701. $-\frac{1}{2\sqrt{1-x^2}}$. 702. $-\frac{1}{x\sqrt{1-x^2}\,(x+\sqrt{1-x^2})}$.

703. $\arcsin(\ln x) + \frac{1}{\sqrt{1-\ln^2 x}}$. 704. $-\frac{2e^x}{(1+e^x)^2} \sec^2\left(\frac{1-e^x}{1+e^x}\right)$.

705. $-\frac{2\sin^3 x}{\sqrt{1+\sin^2 x}}$.

706. $-0{,}8\left(\cos\frac{2x+1}{2} - \sin 0{,}8x\right)\left(\sin\frac{2x+1}{2} + 0{,}8\cos 0{,}8x\right)$.

707. $10^{\sqrt{x}}\left(1+\frac{\sqrt{x}}{2}\ln 10\right)$. 708. $-\frac{4}{\operatorname{tg} 2x \sin^2 2x}$.

709. $-\frac{1}{(x^2+2x+2)\operatorname{arctg}\frac{1}{1+x}}$. 710. $-\frac{1}{\sqrt{x^2-1}}$.

711. $\frac{x+2}{2\sqrt{x+3}\sqrt[3]{(1+x\sqrt{x+3})^2}}$. 712. $\frac{x(8+9\sqrt{x})}{4\sqrt{1+\sqrt{x}}}$.

713. $-\frac{\sin 2x}{2\sqrt{(1+\sin^2 x)^3}}$. 714. $3x^2 \operatorname{arctg} x^3 + \frac{3x^5}{1+x^6}$.

715. $\frac{\operatorname{ctg} x \ln\cos x + \operatorname{tg} x \ln\sin x}{\ln^2 \cos x}$. 716. $\sqrt{\frac{1-x}{1+x}}$.

717. $\frac{4}{(1-4x)^2}\left(\sqrt{\frac{1-4x}{1+4x}} + \arcsin 4x\right)$. 718. $-\frac{e^{\frac{1}{\ln x}}}{x\ln^2 x}$. 719. $\frac{1}{e^x-1}$.

720. $10^{x\operatorname{tg} x}\ln 10\left(\operatorname{tg} x + \frac{x}{\cos^2 x}\right)$.

721. $2\sin x\,(x\sin x\cos x^2 + \cos x \sin x^2)$. 722. $\frac{2\sin x}{\cos 2x\sqrt{\cos 2x}}$.

723. $\frac{2-3x-x^3}{2(1-x)(1+x^2)}\sqrt{\frac{1-x}{1+x^2}}$. 724. $\frac{x^2}{1-x^4}$. 725. $2^{\frac{x}{\ln x}}\frac{\ln x - 1}{\ln^2 x}\ln 2$.

726. $\sqrt{\frac{a-x}{x-b}}$. 727. $-\frac{2(2\cos^2 x+1)}{\sin^2 2x}$. 728. $-\frac{1}{(1+x)\sqrt{1-x^2}}e^{\sqrt{\frac{1-x}{1+x}}}$.

729. $\sqrt{\frac{a-x}{a+x}}$. 730. $\frac{\sqrt{x^2+1}}{x}$. 731. $-\cos 2x$. 732. $\frac{x^2}{\sqrt{(x^2-1)^3}}$.

733. $(a^2+1)\sin x e^{ax}$. 734. $e^{1-\cos x}(1+x\sin x)$.

735. $\frac{2e^{-2x}}{(1+e^{-4x})(\operatorname{arctg} e^{-2x})^2}$. 736. $10e^x \sin 3x$. 737. $9x^2 \arcsin x$.