



مدونة المناهج السعودية

<https://eduschool40.blog>

الموقع التعليمي لجميع المراحل الدراسية

في المملكة العربية السعودية

①
تارين الروال الزائديه

$$y = e^{\sinh x} = e^{\sinh x} \cdot \cosh x$$

$$y = \sinh^3 x = 3 \sinh^2 x \cdot \cosh x$$

$$y = \sqrt{\sinh x} = \frac{\cosh x}{2\sqrt{\sinh x}}$$

$$y = 2^{\sinh x} = 2^{\sinh x} \cdot \cosh x \ln 2$$

$$y = \ln \sinh x = \frac{\cosh x}{\sinh x} = \coth x$$

$$y = \ln \cosh x = \frac{\sinh x}{\cosh x} = \tanh x$$

$$y = e^{\cosh x} = e^{\cosh x} \cdot \sinh x$$

$$y = \sqrt{\cosh x} = \frac{\sinh x}{2\sqrt{\cosh x}}$$

$$y = \cosh^5 x = 5 \cosh^4 x \cdot \sinh x$$

$$y = z^{\cosh x} = z^{\cosh x} \sinh x \cdot \ln z$$

$$y = z^{\tanh x} = z^{\tanh x} \cdot \operatorname{sech}^2 x \cdot \ln z$$

$$y = \tanh^3 x = 3 \tanh^2 x \operatorname{sech}^2 x$$

$$y = \sqrt{\tanh x} = \frac{\operatorname{sech}^2 x}{2 \sqrt{\tanh x}}$$

$$y = e^{\tanh x} = e^{\tanh x} \cdot \operatorname{sech}^2 x$$

$$y = \ln(\tanh x) = \frac{\operatorname{sech}^2 x}{\tanh x}$$

$$y = \ln(\operatorname{sech} x) = -\frac{\tanh \operatorname{sech} x}{\operatorname{sech} x} = -\tanh x$$

$$y = e^{\operatorname{sech} x} = -e^{\operatorname{sech} x} \cdot \tanh x \operatorname{sech} x$$

$$y = \sqrt{\operatorname{sech} x} = \frac{-\operatorname{sech} x \tanh x}{2 \sqrt{\operatorname{sech} x}}$$

$$y = \operatorname{sech}^4 x = -4 \operatorname{sech}^3 x \cdot \operatorname{sech} x \tanh x \\ = -4 \operatorname{sech}^4 x \tanh x$$

$$y = 3^{\operatorname{sech} x} = -3^{\operatorname{sech} x} \operatorname{sech} x \ln 3$$

$$y = 2^{\operatorname{coth} x} = -2^{\operatorname{coth} x} \operatorname{csch}^2 x \ln 2$$

$$y = \operatorname{coth}^4 x = -4 \operatorname{coth}^3 x \operatorname{csch}^2 x$$

$$y = \sqrt{\operatorname{coth} x} = \frac{-\operatorname{csch}^2 x}{2\sqrt{\operatorname{coth} x}}$$

$$y = e^{\operatorname{coth} x} = -e^{\operatorname{coth} x} \cdot \operatorname{csch}^2 x$$

$$y = \ln(\operatorname{coth} x) = \frac{-\operatorname{csch}^2 x}{\operatorname{coth} x}$$

$$y = \ln(\operatorname{csch} x) = \frac{-\operatorname{coth} x \operatorname{csch} x}{\operatorname{csch} x} = -\operatorname{coth} x$$

$$y = e^{\operatorname{csch} x} = -e^{\operatorname{csch} x} \operatorname{coth} x \operatorname{csch} x$$

$$y = \sqrt{\operatorname{csch} x} = \frac{-\operatorname{coth} x \operatorname{csch} x}{2\sqrt{\operatorname{csch} x}}$$

$$y = \operatorname{csch}^3 x = -3 \operatorname{csch}^2 x \cdot \operatorname{csch} x \operatorname{coth} x$$

$$= -3 \operatorname{csch}^3 x \operatorname{coth} x$$

$$y = 3^{\operatorname{csch} x} = -3^{\operatorname{csch} x} \cdot \operatorname{csch} x \operatorname{coth} x \ln 3$$