

Crack the Code

Solving Hyperbolic Equations

A	Solve $\sinh x = \frac{1}{3}$ $x = \ln\left(\frac{1 + \sqrt{10}}{3}\right)$	B	Find the positive solution to the equation $\cosh x = 3$ $x = \ln(3 + 2\sqrt{2})$
C	Solve $\tanh x + \frac{1}{4} = 0$ $x = \frac{1}{2} \ln\left(\frac{3}{5}\right)$	D	Solve $\sinh x + \cosh x = 3$ $x = \ln 3$
E	Solve $4 \cosh x - 2 \sinh x = 5$ $x = \ln\left(\frac{5 \pm \sqrt{13}}{2}\right)$	F	Solve $\cosh x + 3e^x = 4$ $x = 0$ or $x = \ln\left(\frac{1}{7}\right)$
G	Find the positive solution to the equation $\cosh^2 x - \cosh x - 12 = 0$ $x = \ln(4 + \sqrt{15})$	H	Solve $6 \tanh^2 x + 1 = 5 \tanh x$ $x = \frac{1}{2} \ln 3$ or $x = \frac{1}{2} \ln 2$
I	Solve $2 \sinh^2 x - 3 = \sinh x$ $x = \ln\left(\frac{3 + \sqrt{13}}{2}\right)$ or $x = \ln(\sqrt{2} - 1)$	J	Solve $3 \cosh^2 x = 7 \sinh x + 1$ $x = \ln(2 + \sqrt{5})$ or $x = \ln\left(\frac{1 + \sqrt{10}}{3}\right)$

Work out exact answers to each of the equations. To get the three-digit code, add all your answers together, multiply by 100 and round to the nearest integer. **713**