12. $\csc\left(\arctan\frac{x-1}{2}\right)$

$\theta = \arctan\frac{x-1}{2}$

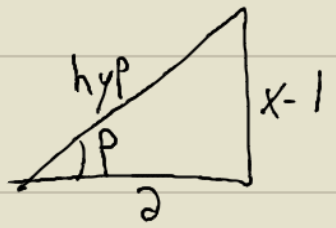
$\tan\theta = \tan\left(\arctan\frac{x-1}{2}\right)$

$\tan\theta = \frac{x-1}{2}$

TAN IS $\frac{opp}{adj}$

SO

$opp = x-1$, $adj = 2$



$hyp^2 = opp^2 + adj^2$

$hyp^2 = (x-1)^2 + 2^2$

$hyp = \sqrt{(x-1)^2 + 4}$

AND CSC IS $\frac{hyp}{opp}$

$= \frac{\sqrt{(x-1)^2+4}}{x-1}$