MX SP	3	Given that $\cos\theta - 2\sin\theta + 2 = 0$, which of the following shows the two possible values for $\tan\dfrac{\theta}{2}$?	1

A. −3 or −1   B. −3 or 1   C. −1 or 3   D. 1 or 3

D

$$\cos\theta - 2\sin\theta + 2 = 0$$

$$\frac{1-t^2}{1+t^2} - 2\left(\frac{2t}{1+t^2}\right) + 2 = 0$$

$$1 - t^2 - 4t + 2 + 2t^2 = 0$$

$$t^2 - 4t + 3 = 0$$

$$(t-1)(t-3) = 0$$

$$t = 1 \text{ or } 3$$