Problem statement Do the following for each of the parametric curves below:

i) Compute the curvature.

ii) Understand and explain the result independently of the curvature computation, for example by graphing the parametric curve, recognizing it geometrically, and finding the curvature from the geometric information.

iii) Verify the geometric assertion in ii) by direct algebraic manipulation.

<div align="center">

Curve A

$$\begin{cases} x(t) = \dfrac{1 - t^2}{1 + t^2} \\ y(t) = \dfrac{2t}{1 + t^2} \end{cases}.$$

Curve B

$$\begin{cases} x(t) = \dfrac{2 - t^2}{1 + t^2} \\ y(t) = \dfrac{2t^2 - 2}{1 + t^2} \\ z(t) = \dfrac{3t^2 - 2}{1 + t^2} \end{cases}.$$

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Comment/hint While these computations and graphs can *possibly* be done "by hand", certainly working with a computational environment like `Maple` will make investigation more practical. But the direct computations must still be explained as requested.