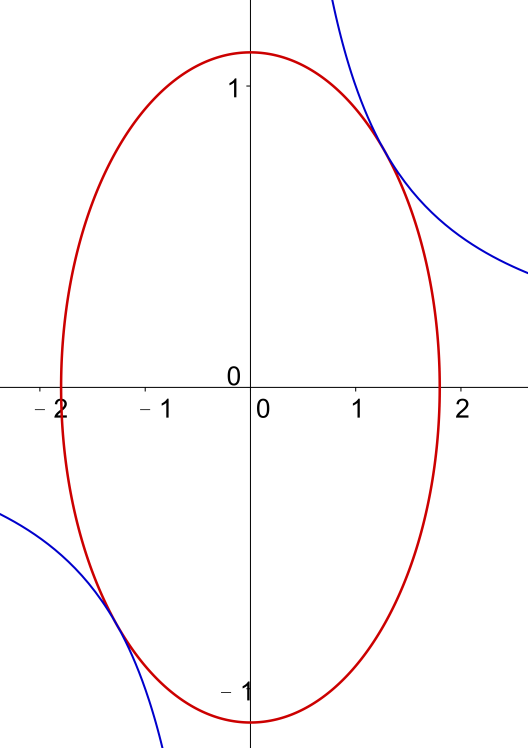
**Conics**

Given that the ellipse is tangential to the hyperbola and .

Find the value of t.



**Method 1**

Since is tangential to the hyperbola , we have

Substitute (1) in , , since

Substitute in (1),

The points of contact of the given ellipse and hyperbola is

Substitute this points in the equation of the ellipse ,

, since .

**Method 2**

Substitute in ,

Since is tangential to the hyperbola , we have

, since .

**Method 3**

The parametric form of is , .

Substitute in , we get .

Since is tangential to the hyperbola , we have

, since .

(For , we have one root. For other values of , we can get two roots or no root.)

**Yue Kwok Choy**

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