**QUESTION**

**Over all real numbers, find the minimum value of a positive real number, y such that;**

***SOLUTION***

*Opening the inner brackets;*

*Next, we differentiate each bracket of the right hand side using the chain rule;*

***and***

*If we say**and*

*It therefore follows that;*

*What we seek is;*

*Hence,*

*Similarly,*

**0**

*Squaring both sides;*

**(\*)**

*Next, we make certain assumptions namely;*

**(1)**

**(2)**

*Thus, when equations (1) and (2) are rearranged, the equation below is formed;*

**(+)**

*This is also;*

**(+)**

*Rearranging this to arrive at,*

*Therefore,*