**MATHEMATICS**

**Question**

(Please show your workings). Over all real numbers, find the minimum value of a positive real number, y such that

y = sqrt((x+6)^2 + 25) + sqrt((x-6)^2 + 121)

Y = √((x+6)2 + 25) +√((x-6)2 + 121)

Y = x + 6 + 5 + x - 6 + 11

Y = 2x + 16

AM >= GM

(2x + 16/2) >= √(2x + 16)

(2x + 16/2) >= 2x(½) + 4

(2x + 16/2) >= 2(x(½) + 2)

2x + 16 >= x(½) + 2