Trial and Improvement

There is a positive value of x which satisfies $x^2 = 6.5$

Find this value of x correct to the nearest 1 decimal place.

→ there should only be 1 trial with 2d.p (*)

we know:

$2^2 = 4$ — too small

$3^2 = 9$ — too big

now cross off previous

so.... $2.5^2 = 6.25$ — too small

$2.6^2 = 6.76$ — too big (cross off prev.)

So the answer lies between 2.5 and 2.6

(*) $2.55^2 = 6.5025$ — too big ⇒ 2.5 – 2.55

All the values between 2.5 and 2.55 round to 2.5